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# SKIN DISEASES

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FREDERICK GARDINER



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# HANDBOOK OF SKIN DISEASES

BY

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EDINBURGH

E. & S. LIVINGSTONE, 17 TEVIOT PLACE

1919





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## P R E F A C E

THE present handbook is a direct outcome of lecturing experience and the apparent disorder in classification is owing to this.

The commoner diseases are taken first, as a thorough conception of these is necessary before the student or practitioner can be expected to diagnose the more rare eruptions. General practice has to deal more with the common skin diseases, and if the practitioner can manage these he will do well. Time even for reading is limited and therefore the aim has been terseness. I have given the views taught mostly in the Edinburgh School. To my former teacher the late Dr Allan Jamieson and my former chief and now senior colleague Dr Norman Walker, I owe much for which I am deeply grateful. It will be understood that much of their teaching permeates the book, altered of course by personal views and experience.

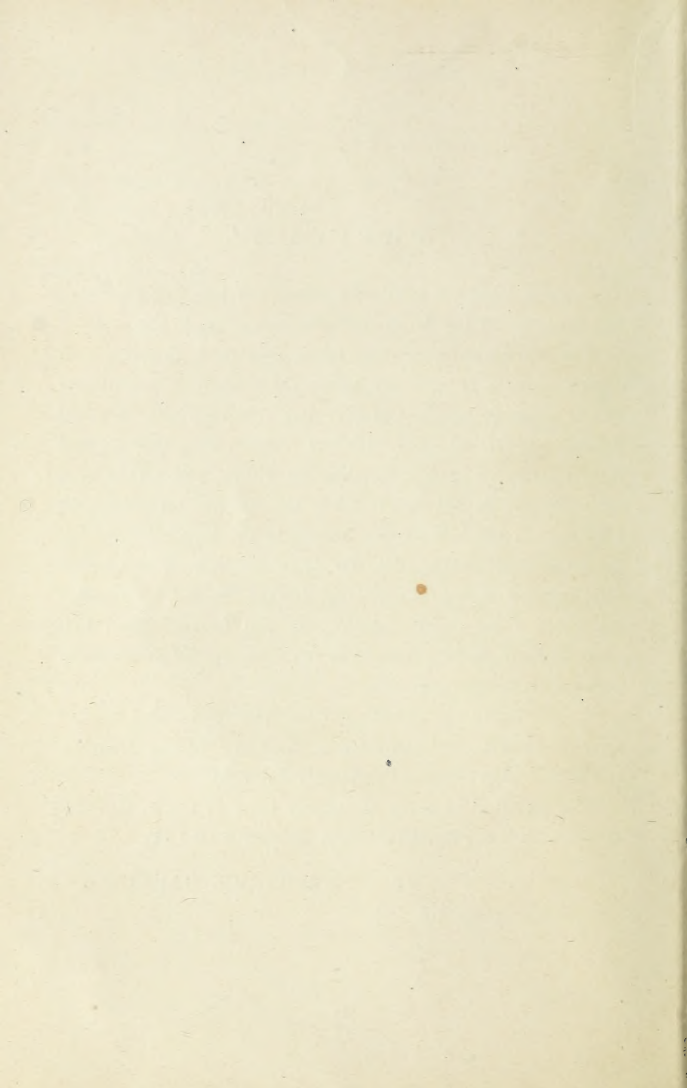
Unconsciously one absorbs phrases from books read, and of these Stelwagon, Malcolm Morris, Norman Walker, Dühring, and Kaposi have been most frequently consulted.

The prescriptions given are largely those in use in the Skin Department of the Royal Infirmary, Edinburgh (R.I.E.).

FREDERICK GARDINER.

EDINBURGH, *October* 1919.





## INTRODUCTION

BEFORE entering on the details of the various types of skin disease it is well briefly to discuss the anatomical structure and physiological functions of the skin.

1. THE ANATOMICAL STRUCTURE.—The skin is composed of two main layers—the epidermis or cuticle and the dermis or true skin (*cutis vera*). The epidermis is made up of two layers, the cuticle proper, consisting of a horny stratum of squamous epithelium with subsidiary strata, *granulosum* and *lucidum*, and the Malpighian layer of hexagonal cells between which the prickles and the channels through which the lymph permeates are found. The dermis or *cutis vera* is the more important and thicker structure in the skin, and is composed likewise of two layers, the papillary projecting upwards as papillæ into the Malpighian layer, and the reticular, in which the nerves, blood-vessels, and lymphatics are embedded with the muscular, fibrous, and elastic tissues necessary for the movements of which the skin is capable. In the true skin also the hair follicles with the sebaceous and sweat glands are found.

All these layers are involved in various skin diseases individually or more often in combination, whilst the appendages are also affected primarily or secondarily.

2. PHYSIOLOGICAL FUNCTIONS.—The physiological functions of the skin are—

(a) A protective organ.—The horny epidermis by reason of its hardness affords a resistant, comparatively insensitive, and yet elastic covering for the softer structures below it. Those

surfaces most exposed to wear and tear have naturally a thicker layer. Further, owing to its greater density, the epidermis prevents too rapid evaporation of water from the skin.

(b) A touch organ.—This is in virtue of the tactile corpuscles in the Malpighian layer. These vary in number in different areas of the skin, being most numerous in the finger tips where the touch sense is acute.

(c) A heat-regulating organ. This function is due to the exudation and evaporation of the sweat, and the radiation of heat from the blood capillaries. It is therefore dependent on the abundance of the blood supply, the influence of atmospheric temperature, and the movements of the body.

(d) An eliminating organ.—The sweat glands and sebaceous glands both act as excretory channels, ranking in this respect with the kidney itself. It is found that about two pounds of watery fluid are discharged daily by the skin, which is thus able to carry off an appreciable amount of the products of metabolism.

(e) A respiratory and absorptive organ —Both these functions are of minor importance. By the former about 120 grains of carbon in a gaseous form are discharged. The absorptive power of the skin however has a special value, forming as it does an avenue for the administration of certain drugs such as mercury in syphilis. The possible danger in the application of poisonous preparations like aconite externally should be kept in mind.

### Clinical Pathology.

In the examination of an eruption it is of great importance to endeavour to determine which layers of the skin are involved and in what special structures the disease has commenced.

There are diseases which affect the epidermis primarily, others which affect the dermis, and many others which affect both sooner or later.

In other types of lesion the glands or the hairs will be observed to be the sites of the disease.

Much can be learnt from the use of a small lens with a focus of about two inches. This is regularly used by the specialist, and it would save many mistakes if it were used by the general practitioner.

The acquisition of increased tactile sensibility is of great assistance, as by this means the depth of the disease can be at least approximately ascertained. The surrounding skin should be gently yet firmly grasped between the finger and thumb, and then the diseased skin similarly examined. Not only the depth of the lesion but also the extent of healing or absolute cure can be decided in such chronic conditions as dermatitis, tuberculosis, syphilis and rodent ulcer when the superficial manifestations have disappeared.

Reaction to irritation, while of great value as indicating vaso-motor disturbance, is rather more difficult to determine. Dermographism as seen in urticaria is a well-known example, but many less obvious alterations can often be elucidated.

The terminology of Diseases of the Skin has long been a matter of opprobrium, but a saner or at any rate simpler classification is gradually being evolved, and no endeavour has been made in this volume to perpetuate the antiquities.

The forms of lesions which occur on the skin must be understood fully, both as regards their names and their extent.

A *Macule* is a discoloration which may arise from capillary dilatation or deposit of pigment. If from the first it disappears under pressure, but if from the second this does not happen. The other main feature is that it is not raised from the surface.

A *Papule* is a common pimple, therefore a small solid elevated eruption which may affect any or all layers.

A *Tubercle* is similarly solid but is larger.

A *Vesicle* is a small fluid-raised eruption generally affecting the superficial layers.

*A Bulla* is the same in larger form.

*A Pustule* is a raised eruption containing fluid pus and may arise *de novo*, or be secondary to a papule or a vesicle.

*A Furuncle* is a larger and deeper pustule.

*Scales* are formed from dead epithelium.

*Crusts* or *Scabs* are more complicated structures composed as Sabouraud has shown of layers of decayed epithelium, fibrin, inspissated serum, leucocytes and pus organisms.

*Scars* are due to the formation of fibrous tissue and, whether pale or red, indicate that the true skin must have been involved.

### **Remedial Agents used in the Treatment of Skin Diseases.**

It is advisable to take a bird's eye view of the chief remedial agents used in skin treatment including the methods of their application and principle of action.

#### **1. EXTERNAL APPLICATIONS.—**

*Powders.*—These are chiefly used as astringents, sedatives, and absorbents, and are especially useful in erythematous or slightly moist conditions of the skin or in regions which are naturally moist. The drugs most commonly employed are talc, combined with boric acid, calcined magnesia, or bismuth. They are dusted on the surface with a puff, a pledget of cotton wool, or if required in large quantity dredged on by a castor.

*Lotions.*—These are generally employed for economical reasons when large areas of skin are affected as they are less costly than ointments. They may be actively astringent, sedative, anti-pruritic, antiseptic, or vaso-constrictor in action. Many of them are merely suspensions of powders in mucilage or glycerine, and of these the boro- or sulpho-calamine lotions are well-known examples. The more astringent combinations generally contain lead; the vaso-motor, ichthyol; the anti-pruritic, salicylic acid, tar, carbolic acid, or resorcin; the antiseptic, iodine, boric acid, carbolic acid, or formalin.



If the lotion is merely a suspension, care should be taken to cleanse the skin periodically from the accumulation of insoluble powder whilst it is being used. Any of these lotions can be applied by means of a soft brush, or by swabbing with cotton wool or lint, and the effect is increased if the cotton wool or lint is allowed to remain in contact with the skin after being soaked with the fluid.

*Liniments*.—These might be called liquid ointments, and the best basis is caron oil, preferably made of equal parts of olive oil and lime water.

*Gelative* preparations charged with various drugs are valuable applications, securing as they do close contact whilst protecting and constricting the skin. In this way chrysarobin in psoriasis and ichthyol in varicose dermatitis are effectively applied.

*Plasters* spread on linen or gutta-percha are often used, especially those charged with salicylic acid or ichthyol.

*Ointments and Pastes*.—These occupy perhaps the chief place in external skin applications. Pastes may be described as ointments in combination with absorbent powders. Cold creams are ointments combined with water, which by its evaporation produces a cooling effect. Much skill is needed to obtain perfect bases for these preparations. Vaseline, soft paraffin, lanolin, and benzoated lard are the favourite bases. Each has some drawback with certain skins, soft paraffin being irritating, lanolin too stiff and insufficiently penetrating, and benzoated lard tending to become rancid. Olive oil and goose grease are probably the best bases, but the former does not mix readily with certain drugs, and the latter easily turns rancid. The well known Lassar's paste is a combination in equal parts of zinc oxide, starch, lanolin, and vaselin, but variations may be made in their proportions.

While in many cases the mere rubbing on of these will be sufficient, a much more thorough plan is to spread the ointment

of paste on strips of cotton or linen. This ensures more perfect contact and also prevents untimely removal.

An important point in the use of thick ointments or pastes is that their removal before re-application must be carried out without damaging the underlying inflamed skin. In practice, swabbing with cotton wool soaked in olive oil will be found to be the easiest plan. Periodic changes in the constituents, their strength, and the consistence of the ointments as indicated by the state of the skin will be found to hasten progress.

*Boracic starch poultices* are often valuable in removing crusts and subduing inflammation. The proportion is usually one part of the acid to eight of starch. The starch should be softened in cold water and then brought to a proper consistency with boiling water. The object in view is to obtain a clear transparent jelly, and it is only to be done by experiment. The jelly is then spread on cotton to a thickness of one or two inches, covered with cheese cloth or fine muslin, and the edge folded in.

*Baths* are chiefly employed in extensive skin affections, and for various purposes. They should be kept at a temperature of 99° to 100° F. If hotter they may induce faintness after prolonged immersion, or if colder may produce chill. Starch baths, containing  $\frac{1}{2}$  to 2 lbs. in 30 gallons of water, are made by softening the starch in cold water and adding it gradually to the bath. The effect is very soothing in eczematous, erythematous, and other inflammatory skin affections. Bran or oatmeal both produce starch, and may be placed in the bath enclosed in flannel bags. Alkaline baths act in two ways, as stimulants to the glands and solvents of the epidermis. They are therefore efficacious in chronic conditions or in scaly eruptions. Carbonate of potash ( $\frac{1}{2}$  to 2 ozs.) makes an excellent alkaline bath. Sulphur baths may be made with 1 to 2 ozs. of calcium or potassium sulphide. In parasitic diseases such as scabies, and in glandular affections such as seborrhœa and psoriasis these baths are useful, though the

natural sulphur baths found at some health resorts may be more effective owing to their radio-activity.

*Soaps* are very popular in skin treatment on the Continent, possibly as a means of securing a higher degree of cleanliness than would otherwise be attained. From its constitution a soap is to be regarded as a chemical salt, a combination of a strong alkali and a weak acid, and its effect is due to its more powerful element. It is therefore a glandular stimulant and a cuticular solvent. When too alkaline it may be harmful as the experience of the laundry proves.

The great desideratum is that the quality should be of the best, but even the finer, or at least the dearer soaps, as those who use the razor can testify, are not always above suspicion. Many of the much advertised medicated soaps are valueless, the incorporated drug being either inert or injurious. Carbolic soap is one of the least reliable. Salicylic acid, sulphur, menthol, or resorcin combined with a good fatty basis are more reputable.

Alcoholic solution of pure soap has some recommendations, and the liquid extract of quillaia or soap-bark (recommended by the late Dr Allan Jamieson), has the advantage of being less alkaline, and yet is detergent in its action. Superfatted soaps are not what they claim, as their virtue does not consist in excess of fat. They are probably made of pure materials and are less irritating to many skins. Where there is much scaly and greasy material present as in acne, a soap bought from a reputable chemist is necessary as a detergent, but it should be used with caution.

## 2. INTERNAL MEDICATION.—

Regarding the skin as an organ of elimination it is obvious that failure on the part of the other excretory organs will act reflexly on it and *vice versa*. The use of fluids and aperients to increase the eliminative effect of the kidney or bowel is distinctly advantageous in many skin affections.

*Diet.*—For the same and other reasons the study of diet is of prime importance in dermatology, but the science of feeding is still in an empirical stage, and though much valuable research work is going on, a scientific basis has not yet been found for our guidance. Speaking vaguely, a light diet is undoubtedly necessary when large areas of skin are affected, and in diseases such as seborrhœa and psoriasis excess in sugar and fat is known to be injurious.

The same remarks apply to opotherapy, which is also in an experimental stage. Thyroid extract has proved valuable in ichthyosis and myxedema, but the other ductless glands have not yielded any well recognised skin remedies.

*Arsenic.*—This is perhaps the most potent drug in the internal treatment of skin diseases, but it must be used with discrimination, and its cumulative effect impressed on the mind of the patient. The author has a preference for drop doses of the liquor arsenicalis, as its effect may be thus accurately watched, and increase or decrease easily regulated. He generally prescribes a course lasting for six weeks, then a break of two, a further dosage of three weeks followed by a second fortnight's rest, and so on. One fundamental rule should be observed, namely, that no acute or moist condition should be treated with arsenic, except the bullous group of skin diseases. In chronic dermatitis and psoriasis it is an effective remedy.

*Iodide of potassium.*—This is a drug largely prescribed for skin diseases, especially in those accompanied by thickened conditions of the skin, and where there is any suspicion of syphilis. In the rarer affections such as actinomycosis, blastomycosis, and sporotrichosis it is very beneficial in its effects. One must always look out for the eruption produced by this drug, generally in the form of a papular or pustular acne-like eruptions which may become bullous or hæmorrhagic in type. They are usually associated with defective action of the kidney.

*Salicylic Acid* and its related compounds, such as salicin and acetyl-salicylic acid, are largely used where the disease is of rheumatic origin. Salicin is probably the best of these, and some authorities recommend doses of 30 grains or more.

*Intestinal Antiseptics* take an important place. Salol, beta-naphthol, carbolic acid and mercury have each their advocates. The erythemata, urticaria, and dermatitis herpetiformis are treated most successfully by these and other antiseptics.

*General tonics* suited to the patient's constitution are often given with advantage, but care should always be taken that the digestion is not upset by their administration. Very frequently stomachic remedies have to be given first.

In conclusion, alcohol in all forms is a vaso-dilator, and is therefore contra-indicated in practically all skin diseases.





# Handbook of Skin Diseases.

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## CHAPTER I.

### STREPTOCOCCAL AND STAPHYLOCOCCAL INFECTIONS.

#### *Impetigo Contagiosa.*

THIS is one of the most common of skin diseases, and while occurring most frequently amongst the children of the poorer classes, is found in all ranks of society. A typical case shows stuck-on yellow crusts round about the mouth, cheeks, ears, or more rarely, other parts of the face. The early stage, sometimes seen, is represented by clear vesicles, generally small and surrounded by a slight red areola. The serum in these vesicles very soon becomes turbid and then dries up, leaving the typical stuck-on crust. Fully developed, the disease may show crusts on the scalp, but much more frequently round the mouth, nose, and ears, with here and there small vesicles, and on other parts pinkish macules, indicating areas where the crusts have been attached but have fallen off. Adjacent uncovered areas may be attacked; a very common site is at the terminal phalanges of the fingers. In chronic, obstinate varieties the affection may, but this is more rare, spread to any part of the body.

The pathology of the disease is an infection by a streptococcus of a non-virulent type on the superficial areas of a sensitive skin, and the proper comprehension of this is vital. The vesicle,

therefore, if examined in the early stage, reveals a streptococcus, but later becomes secondarily infected with the staphylococci always present on the skin. The horny and the Malpighian layers are the only parts of the skin involved, and the crust formed is composed of layers of dead epithelium, inspissated serum, leucocytes, fibrin, and cocci. When this crust drops off the papillæ are not exposed, and consequently there is little bleeding, no ulceration is produced, and rapid healing ensues. Children are most frequently affected because of the skin being more sensitive



FIG. 1.—Impetigo Contagiosa.

at that age, as well as infection from clothing and contact being more common.

Pediculosis capitis (*q.v.*) occurs in more than half the cases, and the spread and continuance of the disease by this means will be often noticed. Recurrent and obstinate cases are in a large measure due to neglect of their presence. The pediculi carry about the streptococci, and make minute abrasions of the skin which then becomes infected. Scratching is a fertile source of spread, especially by the finger nails. Clothing is another means

of contaminating the rest of the community, and this has been recently very evident in the army. In public schools it may be contracted as one of the forms of "serum pock."

*Diagnosis.*—If reliance is laid on certain features, there really need be no difficulty. A disease of recent origin, superficial in character, with definite distribution, mainly on the face and hands, will rarely come under any category but this. In spite of these facts and its great frequency, it is often undiagnosed. Chicken-pox shows vesicles and bullæ in all phases, is more widespread, and is generally at first at least accompanied by a rise of temperature. Pemphigus and dermatitis herpetiformis are chronic diseases, with different distribution and general symptoms. Dermatitis or eczema is deeper, more extensive, has not the stuck-on crusts, and is not so vesicular. Tinea circinata of the face, when impetiginous (a name loosely applied to a crusted staphylococcal infection), may be differentiated by its isolated character, and the microscope is the final court of appeal.

*Prognosis.*—For a speedy recovery this is good, if treatment is thoroughly carried out. In any event no scarring is left.

*Treatment.*—The physician should always bear in mind that he is dealing with a weak organism and a sensitive skin. The rule in the Royal Infirmary, Edinburgh, is to apply an ointment containing 5 grains of hydrarg. ammoniatum in the ounce of soft paraffin, and the patient is instructed to use this four times daily *ad. lib.* The use of this is, however, fatuous unless the crusts are previously removed, and this can be readily done by the use of starch poultices, olive oil soaks, or bathing with hot water. The method varies with the individual, the surroundings, and the type of the case, but it is best to put it bluntly by saying that the ointment may be as well rubbed on outside the clothing as on the top of crusts. Simultaneously, the paraffin or other treatment should be instituted for the treatment

of the pediculosis. In moist or inflamed cases a zinc paste may be substituted for the soft paraffin, and will be found more soothing. In bullous and stubborn cases, sponging with 1 in 800 corrosive sublimate spirit twice daily will dry up the lesions quicker than any other means. As a man or a woman, not to speak of a child, rarely ever lays the head on the pillow at night and wakes with it in exactly the same position, the remedies should be applied on cotton or linen spreads at night, and in tolerably severe cases it is advisable to do so during the day. The use of vaccines is rational, but is rarely indicated. The writer has had to use them once or twice in many thousands of cases.

### **Bockhart's Impetigo.**

Bockhart's Impetigo is a condition affecting the hair follicles in which discrete pustules are observed often with the hair sticking out from the centre, and mostly appearing on the limbs. The eruption classified as sycosis (*q.v.*) is the same disease originating on the beard and moustache region in a seborrheic patient, and altered in appearance and character by the irritation of shaving. Otherwise the eruption is most commonly found on the limbs, and in miners it occurs as a form of occupation dermatitis. The miner works stripped to the waist, and his pants become soaked with dust and moisture, so that the thighs and hips, not so thoroughly washed as the chest, readily succumb to infection. The etiology differs from that of impetigo contagiosa by being primarily due to the staphylococcus.

*Treatment* with a 1 per cent. ammoniated mercury in vaseline or paste is quickly effectual, if, at the same time, spread is prevented by recommending the patient to change underclothing frequently, and to have daily baths containing a weak solution of permanganate of potash. Where the cure is not speedy, then treatment by vaccines, preferably autogenous, is to be recom-



mended. Stannoxyl may be tried here as mentioned under furunculosis.

### **Ecthyma.**

Ecthyma is another staphylococcal infection of the skin, but as the patient is generally devitalised, a deeper ulceration ensues. Found almost invariably on the limbs, the characteristic features are the presence of more or less deep ulcers covered often with thick crusts. If the disease has been of long-standing, scars and some pigmentation will be noticed where previous lesions have healed. In former years the class affected was generally the poor and badly nourished child or elderly person, but the recent war has brought into prominence a type which the writer has, in his own mind, classified as military ecthyma. While anything but devitalised, the soldiers were exposed to what might be called chronic verminous attacks, living in a muddy environment, and often with little opportunity of changing their clothing. In many cases scabies accompanied and produced more severe scratching, but the resultant type was, in several ways, markedly different from that seen in civil life. The ulcers were exceedingly chronic, and the pigmentation left was often as deep as that seen in syphilis, so much so that many cases were diagnosed as manifestations of that disease. The differential diagnosis ordinarily is simple, when one takes into consideration the type of patient, but even here constant watchfulness for the infection of *treponema pallidum* is necessary. If the eruption is syphilitic and multiple, it is most generally of a late secondary type, and if so, the other secondary symptoms may be present; *treponemata* may be found locally and the Wasserman reaction may be positive.

*Treatment.*—When the lower limbs are involved, rest in bed should be insisted upon if this can be done. The crusts should be removed by boric starch poultices, and the ulcers dressed with 1 per cent. ammoniated mercury paste applied on spreads of cotton and

changed twice daily. If resistant, then soaks of red lotion may be tried, but recent military experience has shown that painting with 2 to 3 per cent. solution of silver nitrate is generally most happy in its results. Internally, general tonics should be administered, and in civil life, cod-liver oil is usually found to be the most valuable of these.

### **Furunculosis.**

This condition often accompanies other skin diseases such as acne, dermatitis venenata, and impetigo, but as often it is seen alone. Occurring at puberty, it well illustrates the fact that an organ of the body, like an army in process of change, is most vulnerable. Some little abrasion or irritation occurs about the neck or shoulders; staphylococcal infection sets in, and surrounding areas in neglected cases become secondarily infected. In debilitated individuals, and especially diabetic individuals, these furuncles may aggregate into large carbuncles. Generally, the attack lasts only a week, but cases lasting a few years occur every now and then.

*Treatment.*—Anything that improves the general tone is of value. Our grandmothers used to give salts and sulphur and treacle, which the experience of centuries had shown to be of value in, at least, certain cases at puberty. Yeast, stout, and nuclein in various preparations are used to increase leucocytosis, and to some extent may be beneficial. More recently, injections of colloidal manganese have been recommended. In the writer's experience, it is advisable to commence with one c.c., of  $\frac{1}{4}$  per cent. solution, and inject deeply into the muscular tissue of the arm or the thigh. The doses should be given every third day and increased according to reaction up to 2 c.c.s. With this method there is little reaction either locally or generally, and results have been very satisfactory. It has been remarked that workers with tin suffer very little from furunculosis, and salts of tin are now

often prescribed with more or less success. The proprietary preparation Stannoxyl is probably the most reliable of these. Otherwise general tonics, such as quinine, strychnine, iron, and arsenic should be tried.

In the treatment locally the prevention of spread is the essential point, and to this end frequent changes of underclothing and the daily bath, with or without the use of antiseptics, should be insisted upon. One of the most satisfactory abortive treatments is the injection of one or two minims of liquid carbolic acid by a hypodermic needle into the centre of the boil. Painting with iodine is frequently mentioned, but its effects are too superficial in the writer's opinion. Where pus has already formed, a useful plan is to introduce, either with or without a minute incision, a loop of thin wire dipped in pure carbolic acid. The application of a piece of plaster (belladonna, or mercury and carbolic) over the boil with a hole at the apex, often restricts the spread. Still later, cupping, according to Bier's method, is useful, but there is nothing which will relieve pain and generally help equal to a very hot antiseptic poultice, either antiphlogistine or boiled linseed, covered on the skin surface with sterilised cotton or linen. Surgeons still recommend deep cruciform incision, but it is rarely required if the above methods are carried out. At the most only a small incision is necessary.

## CHAPTER II.

### DISEASES DUE TO ANIMAL PARASITES.

#### Pediculosis.

THIS takes three forms—*P. Corporis*, *Capitis*, and *Pubis*. The first two are practically identical, the *corporis* being slightly larger. The *pubis* is shorter and has more curved hooklets, which enable it to adhere to the stiffer hairs. All three deposit their ova on the hairs, and attach them by means of cement.

To take first *P. Capitis*, we have here to deal with an exceedingly common condition, more frequent amongst children, but assuming as severe forms in the case of adults. The *pediculus* lays its ova generally near the root of the hair, and accordingly the duration of the disease can frequently be ascertained by the position of the ova, which grow out with the hair; but in advanced cases the *pediculi* are crowded out, and deposit their ova anywhere.

Living on the blood, the insect produces small abrasions on the scalp, and as itching is simultaneously produced, the subsequent scratching may result in infection by the ordinary organisms of the skin. Eventually the whole head may become covered with crusts, and it is not uncommon to have enlargement of the glands of the neck, especially in the occipital region, going on even to the formation of abscesses. In searching for an early case, it is advisable to look in the occipital region, or about the temples, and a thorough search necessitates the lifting up of the hair in these regions. The small ova will be seen attached unilaterally

to the hair, and if there is any doubt it is advisable to remove one or two hairs, and examine by means of a lens. Seborrheic scales often simulate ova, but they are readily detached by means of the finger nail, whereas the ovum can at most only be moved along the hair.

The treatment in the case of a boy is greatly facilitated by cutting the hair, but in the case of girls and adults this is not feasible. The pediculi cannot live in oil, because it blocks up their respiratory mechanism, but all oils do not kill the ova. Paraffin oil (Kerosene) fulfils both functions and is cheap, so that it is regularly used in the R.I.E. The patient is instructed to anoint the skin adjacent to the hair with vaseline or zinc ointment to prevent irritation of these parts, and the hair is then thoroughly sponged with paraffin oil, care being taken that no areas are neglected. Rags previously soaked in paraffin oil are then wound in and out and left amongst the hair. The whole is now enclosed in a flannel cap soaked in paraffin, and over this an ordinary bathing cap is placed, the final and very necessary direction being given; that care must be taken to avoid approaching a light or a fire. This application is renewed twice in the thirty-six hours, and at the end of that time the head is thoroughly washed with soap and water. Very rarely is there any further trouble, although the ova, now dead, remain in position, and are only gradually removed by combing or sponging with weak alkali.

The process is disagreeable, and in better ranks of society, where this infection may at times have to be treated, oil of sassafras may be substituted. Generally in these last cases the condition is very mild, and the few diseased hairs may be cut out, the hair washed every night, and then sponged with oil of sassafras, which has a rather agreeable odour. A quicker method is to use a mixture of xylol and ether, by pouring it over the affected scalp: all the pediculi and ova coming in contact with this fluid are at once killed. The ordinary ointments sold by chemists are, to a

certain extent, valuable, but are not capable of being used so easily as the above liquids ; consequently, the results are uncertain. The subject is rather a delicate one to tackle in certain families, and should always be approached with tact—if the physician wants to retain his patient. Even under the care of a mother who has a high ideal of cleanliness, infection may take place, and there is no doubt that certain types of hair are more susceptible than others, therefore blame should be cautiously apportioned.

Pediculosis corporis is essentially a disease affecting the uncared for and the unwashed. The old person living alone, and the vagabond, who never has a complete bath, are the two types chiefly involved. A very good plan in cases of doubt is to examine the underclothing, and the pediculi will then be seen lurking about the folds. The ova may be seen in certain cases attached to the lanugo hairs, when a lens is used. The irritation is in most cases very severe, and long scratched lesions will be noticeable on the body, being often specially severe about the scapular region. Like scabies, the itching is worse when the individual is exposed to heat or in bed, and it is often in very old people, aggravated by the senile pruritis co-existent.

Here the treatment must consist in a thorough disinfection of the clothing and the skin. An ordinary sulphur bath, or even a hot bath with soap and water, is quite sufficient to clear the skin, but the clothing and the bedding, if necessary, must also be strictly attended to. Ironing of the creases by a very hot iron is commonly recommended.

P. pubis affects chiefly the genital region, and there it produces its greatest ravages, but it may spread from there to the axillæ, moustache, beard, and even to the eyebrows and eyelashes. Where possible the hair should be clipped or shaved, and elsewhere the rubbing in of a strong mercurial ointment will suffice. Sponging with petrol is reputed by some authorities to be sufficient treatment.

### Scabies.

This condition is extremely common, and its spread is easily accounted for by the mode of living. The female form of the *acarus scabiei*, the offending parasite, penetrates into the epidermis and lays its eggs there; the male acarus remains on the surface of the skin. The lesions indicating their presence are small sinuous burrows, with often a vesicle or pustule at one end, the outline of the burrow being marked by a more or less grey colour. The parasite naturally takes the easiest place where the epidermis is thinnest, and the common sites, therefore, are the webs and sides of the fingers, the front of the wrists, the front of the axillæ, the buttocks, and the genitals. These are the areas to be first examined, but subsequently evidences may be detected on any part of the body that can be reached by the finger nails, except the face and scalp, and these even may be affected in the case of young infants. While the burrow is the characteristic lesion, many cases, especially of a chronic character, occur in which no burrow may be seen, but deep hard nodules in the affected areas, accompanied by other symptoms, are quite pathognomonic.

The patient, when questioned, will generally give a history of having slept in an infected bed, or having been near some infected individual; but while bedding is the common source of spread, any form of clothing, or more rarely, close contact with a patient, as in the case of nurses, may be a source of infection. The history of others in the household suffering from the disease is a very useful one from the diagnostic point of view. The itching accompanying the disease is often very severe, and the patient complains mostly of it being worse immediately after going to bed or when sitting in front of a hot fire. As the result of this itching there are many scratch marks on the body, and a pustular infection commonly supervenes. It is not rare, also, to see wheals of urticaria appearing, and if the nettle or common flea can produce



these, it is not surprising that the more powerful acarus can also do so.

The writer lays great stress on the necessity of an observer being able to diagnose scabies without the presence of burrows, and in the case of the army and navy at present such methods of diagnosis is absolutely essential. It is a subject of scientific pride for some authorities to find an acarus in each case. The method adopted is to pass a needle into the burrow to the end, where, by a lens, it may even be seen lying, then to tear open the burrow and the acarus will be found adherent to the point of the needle. Another method is to make thin shavings of the epidermis with a sharp razor. The acari will be more fully demonstrated by putting the material on a slide covering with a drop of liq. potassæ, and examining under a low magnifying eyepiece. Life is too short for these strenuous endeavours, and they are generally unnecessary.

*Treatment.*—After all is said, sulphur, in some of its forms, is the best all-round method to be adopted. The ungt. sulphuris is generally used, and great attention should be directed to the method of application. The patient is instructed first to have a hot bath, and to scrub thoroughly with soap and water, even to the extent of tearing open the burrows with a nail brush; it is best, therefore, done by some not too sensitive attendant. He or she then stands in front of a fire and rubs in this ointment all over the body, devoting most attention to the effected areas. Confinement to bed should now be insisted on, and cotton gloves should be worn to keep the ointment from being rubbed off the hands. For three days and three nights the patient should not wash, and the ointment should be rubbed in three times a day. At the end of this period the patient is again to have a hot bath, and if possible should put on fresh underclothing and go to a different bed.

In some institutions it is even possible to disinfect the

bedding and underclothing whilst the patient is having this last bath, but in domestic circles the disinfection of the clothing and bedding generally takes place afterwards. It must be understood that a thorough disinfection of all the clothing and bedding spells success, and if this matter is neglected, a recrudescence of the disease will inevitably follow. The above plan, if rigorously carried out will cure a recent case, but in chronic cases it may have to be repeated at intervals.

If, as frequently happens in private practice, the patient continues to use the sulphur ointment longer than three days, a dermatitis, with a more or less severe itching will certainly follow, and the patient goes on blindly in the belief that the itching is really still due to the acarus. The writer's method, in chronic cases, is to order three days of the sulphur ointment, then prescribe 10 to 30 grains of beta-naphthol in the ounce of zinc paste, to be rubbed in twice daily. This drug is a parasiticide, but, while causing some pain in its application, is not liable to set up a dermatitis; it can be used, therefore, when the patient is going about his duties. It is a good plan to paint any nodules with balsam of Peru. In a week, the ungt. sulphuris may be repeated. Vleminckz solution, when freshly made, is sometimes employed, but chiefly where the deep inunction cannot be obtained.

In the writer's experience sulphur vapour baths are, while beneficial, not reliable. In young children the skin may be more sensitive, and the sulphur ointment may have to be mitigated with zinc ointment. At other times the skin may be so infected and inflamed that we have to use some soothing ointment, such as ammoniated mercury 5 grains in zinc paste 1 ounce, for a few days before commencing the sulphur treatment. The continental plan is to thoroughly scrub with soap and water and a nail brush, and then immerse the patient for half to one hour in a hot bath containing about 2 ounces of potass or calx sulphurata in a 25-gallon bath. The idea here is to open all the affected burrows,

and these being open the sulphur kills all the acari and the ova. While this is being done, the clothing is disinfected. Sometimes the ordinary patient in this country cannot remain in bed, and if it is a mild case he can be treated by a sulphur bath every night and an inunction of beta-naphthol paste twice a day, with a change of bedding and underclothing twice a week.

There are many other drugs used, but the above methods, if thoroughly carried out, will give satisfaction; however it must be again stated that the thoroughness in the carrying out of these methods is the absolutely essential condition of success.

## CHAPTER III

### SEBORRHŒA AND THE SEBORRHŒIDS.

#### Seborrhœa

THIS title, although a misnomer, has come to stay, and therefore one must use it. The name indicates an increased flow of sebum, But more accurately the disease is rather defined as a faulty secretion of the sebaceous and sweat glands. The sebaceous glands are either saccular or racemose in character; they are smaller in the larger hairs of the scalp and beard, and larger when attached to the lanugo hairs. Amongst the regions where the largest sebaceous glands are found are the nose, ear, and nipple. They are numerous also in certain regions such as over the vertebral spine and over the sternum. The sweat glands are more numerous about the scalp, the flexures, and the palms and soles.

At birth, puberty, and the climacteric there are glandular changes, and as a consequence the glands are easily disturbed. The most severe outbreaks of the disease occur generally at these periods, although it may continue during the interval. The vernix caseosa of birth, the greasy acne face of the young woman at puberty, and the seborrhœa of the scalp and body at the climacteric, may be cited as types. It is a disease most polymorphic in its manifestation, and, what is of great importance, is often the basis for the commencement of other eruptions. The etiology has been the cause of some of the most valiant literary combats in the dermatological world. Unna considers it is due to a

morecoccus, and that the sweat glands are more involved than the sebaceous glands. Sabouraud considers that a bottle bacillus is pathogenic, and that the sebaceous glands are at fault. Neither of these two doughty champions nor others have proved their conclusions to be right. The facts I would like to emphasise are

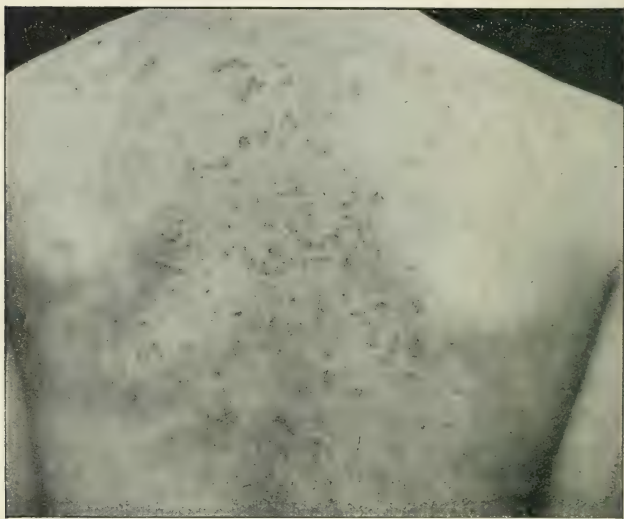


FIG. 2.—Seborrhœa Corporis.

these:—*Firstly*, sebum and sweat are first-class culture media for all organisms of the skin. *Secondly*, our environment is an unnatural one, clothing, hats, etc, are irritant, we live in an atmosphere charged with dust, irritant fumes, and other noxious substances, and we use irritating soaps to cleanse the skin. *Thirdly* the worst attacks start at the three crucial periods

of life, and attacks at other periods might be accounted for by persistence of seborrhœa with recrudescence due to some irritant. *Fourthly* at the three periods mentioned, glandular diseases are common. These are all factors which, to my mind, may explain much, although giving no definite causation.

*Signs of Disease.*—In the earliest stages there is merely a slight greyish or yellow scaling, with it may be dryness, or it may be oiliness of the hair, conditions which may last during a lifetime, or may get worse and spread elsewhere. Sometimes the scalp and hair are very moist, at other times the scales may accumulate and form a sheath round the hair. In this region especially the effects of dust and hats causing either irritation or pressure is of importance. Later the hair becomes devitalised, and a more or less severe alopecia may ensue. It must, however, be noted that an extensive alopecia may follow a very mild degree of seborrhœa. Later seborrheic dermatitis is apt to occur if the parts become infected with staphylococci. The skin of the scalp now shows marked redness, oozing, and crusting, which generally at least spread to the forehead and ears, and the hair also becomes matted. Haviland Hall has defined this condition, occurring as it frequently does in infants, as an occupation dermatitis—the name is most appropriate.

The flexures show the disease mostly as a reddened moist eruption, with scaling at the edges, and it may be the formation of crusts. This is the old condition popularly called “firing,” seen in the fat old lady under the folds of pendulous breasts, and also seen in infants as one of the forms of napkin rash. On the trunk we have to note the occurrence of a type of the disease called “flannel rash.” This appears on the front and back of the chest, and when fully developed shows irregular circinate patches of a slightly thickened eruption, with pale pink edges and covered more or less by slight yellow scales. This variety frequently occurs in the young adult, and a history will often be obtained of excessive

perspiration following unusual exercise. The old teaching was that it was due to the use of some fresh underwear, and although not invariably the case, I can personally speak as to its occurrence following the use of irritating underwear.

Another form of the eruption more papular in character, may not infrequently be found both on the trunk and limbs, the papules being slightly scaly and, like the above eruption may be accompanied by more or less severe itching. These are types of the eruption, but in the same patient various forms may occur at different periods of life. Especially on the flexures of the elbows and knees and back of the neck it may assume the chronic phase, in which the skin as a whole gets thickened; itching still being persistent, the patient scratches and the thickening is increased. Subsequently a rugose thickened condition may supervene, white in the centre and often showing a brownish pigment towards the edge. This clinical appearance, called by the French "lichenification," may however be a sequel to other skin conditions.

*Differential Diagnosis.*—The situation of the eruption is the most important point in this connection. A recurring disease, with involvement of the scalp and flexures, which is slightly itchy and in which there is no great thickening, eliminates most other conditions. Specific disease, if secondary, is accompanied by other secondary symptoms, is not itchy and the feeling of the eruption suggests a greater depth of involvement of the skin. Isolated circular patches may be indistinguishable from ringworm until a scraping examined microscopically clinches the diagnosis. Pityriasis rosea is almost indistinguishable in some cases, but the occurrence of a herald patch and the distribution only on the trunk, when accompanied with no seborrhœa of the scalp, will point to this disease, and subsequent treatment will clear up the diagnosis. Dermatitis occurs on parts exposed to irritation, but it must be always remembered that it is often accompanied with seborrhœa.



*Internal Treatment.*—This is of undoubted value in recurrent or widespread cases. General tonics are often required, as the worst types are found in debilitated individuals. It has long been recognised that alkalis are of value, and recent work by Barber and Lemon has emphasised the importance of pushing alkalis to the extent of making the urine alkaline. They recommend—

R Sodii Bicarb.	. . .	1 dram.
Potass. Citrat.	. . .	gr. 30.
Calcii Lactat.	. . .	gr. 5.
Magnesii Carb.	. . .	gr. 5.
Aquæ Chlorof.	. . .	add 1 ounce.

This is pushed to twice the above dose if necessary every few hours.

While not uniformly successful the method sometimes does very well.

Diet should also be watched. Excess of fat and also excess of starchy foods and sugars have very pernicious influences in many cases.

*External Treatment.*—If one were to summarise the treatment one might briefly give it as the judicious employment of sulphur, salicylic acid, and silver.

For the scalp the routine method which the writer finds most suitable consists in :—Weekly washing with soap and water (he does not recommend soap spirit) and the use of ordinary water as often as feasible. Naturally this depends on the sex of the patient. Brushes should be washed and disinfected with formaline twice weekly, and the lining of the hat should be changed once a week, then a thorough brushing of the hair (not combing) should be advised. For inunction an ointment containing 10 grains each of sulphur and salicylic acid in the ounce of soft paraffin once or twice daily, is a good general measure. The patient should be instructed not to lard this over

the hair, but to get it thoroughly massaged into the roots. Patients frequently complain that they find this makes the hair intolerably greasy, and therefore one must alternate its use with that of a spirit lotion—

R. Acidi Salicylic.	.	.	.	1 dram.
Hydrarg. Perchlor.	.	.	.	1½ grains.
Olei Ricini	.	.	.	2 drams.
Spt. Rosmarini	.	.	.	1 oz.
Spt. Vini Rect. ad	.	.	.	4 oz.

The ointment is to be used as often as comfort will allow, and on the other nights the lotion is to be applied.

A steady persistence in this treatment will certainly remove the bugbear of dandruff from many heads. Occasionally one finds that there is excessive perspiration or the eruption is more moist than usual, and then an ointment containing 10 grains of tannic acid or 10 grains of benzoic acid may be found suitable. It is in the more severe and chronic cases that trouble arises. If very severe, clipping of the hair must be insisted on. This is easy in the case of children, but it is naturally often difficult to get the consent of the adult female.

Where crusted, a very stringent search should be made for the presence of pediculosis, and if manifestations are found, treatment for this must be first instituted. For the crusting, if the hair is cut, starch poultices may be applied, but if not, one must soak in olive oil. The chief measures must then be directed towards the elimination of the secondary infection with staphylococci. An ointment or a paste containing 5 grains to the ounce of hydrarg. ammoniat. yields good results. (American observers find that a 10 per cent. strength of the above ointment is useful in all seborrhoeas.) Afterwards one can return to the routine method mentioned above. Every now and then one comes across cases in which the thickness and the redness do not disappear, and in this

event a 10 per cent. solution of tar in benzole or carbon tetrachloride may be painted on every second or third day, short of producing too much irritation. For the condition affecting the trunk the use of baths containing permanganate or carbonate of potash is to be recommended if the disease is extensive, and the inunction of sulphur and salicylic ointment or sulphur and salicylic acid in Lassars' paste will generally remove the disease.

A word of warning may be given, and that is to use weak strengths of the ointment or paste at the commencement, and gradually increase the strength as the condition seems to tolerate it. As ointments are expensive they may be substituted by lotions where large quantities are required, and of these the best are boro- or sulpho-calamine and a lead and zinc lotion with or without tar. The common one in use at the R.I.E. is—

R Liq. Plumbi Subacetat. Fort . . .	
Liq. Carbonis Detergent. āā . . .	2 drams.
Zinci Oxidi . . . . .	
Glycerini āā . . . . .	$\frac{1}{2}$ oz.
Aquam ad. . . . .	6 oz.

This can be used very frequently, even every hour. For the eruption affecting the flexures the removal of the crusts by starch poultices or olive oil, the subsequent application of the sulphur and salicylic paste, with the painting on of a solution containing 10 grains to the ounce of silver nitrate in water every second or third day is a good plan. In these parts the disease is altered owing to the excessive involvement of the sweat glands, and astringents are more valuable. The sulphur and salicylic paste may be substituted by a paste containing 10 to 30 minims of argyrol. The chronic lichenification is a stubborn condition to treat, but one must not rest satisfied until this thickening is removed; otherwise relapses will inevitably occur. Salicylic ointments in increasing strengths, solutions of tar or painting with

crude liquid coal tar, or lastly X-rays, will if persevered in, eventually bring the skin back to the normal.

## ACNE.

### Acne Vulgaris.

THE three diseases classed as acne vulgaris, acne rosacea, and rosacea, are in well-defined types quite distinct, but there are many cases where it is difficult to decide the category.

Acne vulgaris is an inflammatory infection of the sebaceous follicles directly due to the acne bacillus. The distribution of the disease is chiefly on the face and trunk, where these follicles are largest. The comedo, the papule, and the pustule are the characteristic lesions. Generally it will be observed that there is a definite seborrhœa of the scalp, and the skin as a whole is unduly greasy. As a result of the pustulation, there may be well-marked hyperæmia round about the lesions. When the comedo is expressed by an extractor or simply by the fingers, there will be observed a small wormy mass of material coming out of the follicle. Sometimes the pustules become much larger and furuncles more or less deep develop, and, in cases of any long standing, scars are noticeable.

The common onset occurs at the time of puberty, and the individual affected will often be found to suffer from anæmia, constipation, or intestinal toxæmia, or in women there may be uterine disturbance. In phthisical patients it is not uncommon to see a pretty severe crop of lesions affecting the back. It is to be recollected that iodides and bromides, given internally, and tar, paraffin, and chlorine, when applied externally, may produce lesions almost identical to acne, although not on the usual sites.

If a biopsy of the affected part is taken it will reveal a dilatation of sebaceous follicles, a blocking of the ducts by the

comedones, and a dilatation of the blood vessels, and exudation of small cells in the surrounding skin.

The question of etiology is still somewhat in dispute, although most are agreed that the acne bacillus is the causative organism, and the writer finds it advisable to explain it briefly as an infection of the above bacillus occurring on a seborrhœic skin, in the case of



FIG. 3.—Acne Vulgaris.

a patient whose facial vaso-motor system is disturbed by some internal cause.

The treatment, therefore, should be both local and general, greater stress being laid on one or the other in the individual case. Diet should be regulated to suit the gastric and intestinal disturbance, and above all the common vaso-dilators, alcohol, tea and coffee, should be prohibited. It is interesting to read that recent

research has proved that the toxins of constipation are in themselves vaso-dilators.

*Local treatment.*—The mechanical extraction of the comedones is naturally the first thing that occurs to the mind of the observer. Various comedo extractors are in the market, and the main essentials of a good type are that they should have no corners, and be easily adjusted. Careful sterilising of the instrument before and after use is necessary, as well as accurate placing over the comedo, and a gentle insinuating pressure. On no account must abrasion of the skin follow, consequently, it is preferably used by the physician himself, unless in the case of a very careful patient. It is a good plan to swab the face immediately afterwards with absolute alcohol. Steaming the face is a practice recommended by some physicians, and while it undoubtedly softens the sebum, in the writer's opinion, it causes too much temporary vascular dilatation, and a permanent lowering of the tone of the whole skin, so that he does not recommend it. An india-rubber sponge without soap, and general face massage is helpful, but should not be used in cases where there is much vaso-motor disturbance.

Early incision of the pustules is of the greatest importance, as by so doing subsequent scar formation is minimised. A large pustule is easily incised, and the subsequent introduction of a loop of fine wire, previously dipped in pure carbolic, into the abscess cavity will promote rapid healing. For the earlier and deeper papules, the acne lancet which is provided with a shoulder, or a fine Graefe knife, should be accurately introduced into the centre, while the skin is steadied with the fingers of the other hand. This is by no means an easy matter, and on many occasions the first attempts will only produce bleeding.

For general purposes the boro-, or sulpho-calamine lotions, will be found to be the most reliable applications in the earlier stages. These act in an astringent and sedative manner, and the sulphur

is partly a vaso constrictor, and also a glandular stimulant. If general practitioners would learn to adopt their use and avoid the use of ointments, there would be less heart-burning amongst patients. Where hyperæmia is very evident, the addition of a dram of ichthyol to 6 ounces of the lotion will be found advantageous. The disadvantage of these lotions is the powdery sediment left on the skin, which precludes their use in normal life. Much, however, can be done by using them freely at night, and in the morning for a short period, after which the superfluous powder is rubbed off with a soft handkerchief.

In the moist type, where probably the sweat glands are to a certain extent involved, a more active astringent is desirable. The common one in use is the following :—

R Zinci sulphatis  
 Potassæ sulphuratæ āā . . . . 1 dram.  
 Aquam rosæ ad . . . . 4 oz.

The strength of this can be increased if it is found necessary. It has the advantage of leaving no sediment, and in certain cases the writer has used this lotion through the day, and boro calamine at night. Where there is much thickening, the addition of a dram of resorcin or salicylic acid will be found to produce a greater exfoliation of the diseased skin to the satisfaction of the patient. Another method is the use of soaps, and the best of these is a sulphur and camphor, or a sulphur and salicylic soap. A lather of this thickly made, and allowed to stay on for an hour or two at night, will for a time produce a severe scaling on the face, but after some weeks it often loses its virtue. The action here is that of a soap removing the grease, and the alkali and other ingredients dissolving the epithelium. Some writers strongly recommend that obstinate patches be more severely treated by escharotics, which will remove much of the surface epithelium. Resorcin in 50 per cent. strength, made up in zinc oxide, kaolin, and lard, is



applied on cotton or linen for some days, until the most of the epithelium on the part is denuded. It keeps the patient off duty for a week or two, and the writer has not found the results commensurate with the inconvenience. X-rays, in small doses at long intervals, are much recommended by some writers, but this matter must be left to the expert.

As we are dealing with an infection from a specific bacillus, it would be expected that the result from vaccines would be valuable, and undoubtedly they are in certain cases. Where the comedo is greatly in evidence, a vaccine made from the pure acne bacillus, and given in increasing doses is to be recommended. On the other hand, when there is severe furunculosis, it is better to treat first with a staphylococcal vaccine. The ordinary case generally yields to a mixture of these vaccines. That the vaccine should be autogenous, if possible, is the writer's opinion, but this is not always feasible, and stock vaccines on sale in the market are generally used. The doses of these should vary from 50 to 500 millions, and commencing with the weaker, the strength should be increased according to the local reaction, the interval between the smaller doses being a week, and the larger doses from three to six weeks. It cannot be too strongly insisted on that the study of acne vulgaris must be the study of the patient as a whole, and that the unsatisfactory results obtained are due to neglect in the early stages, and in the later stages either to the faddist, with one method of treatment, or to the fatalist, who has none.

### **Rosacea.**

This may be described as a purely seborrhœic eruption, in which the locality, affected by the condition of the blood vessels of the skin and the liability to external irritation, determines the appearance. It is distinguished from acne vulgaris by the complete absence of the comedo element. Redness, chiefly

affecting the nose and malar region, but also other parts of the face, accompanied by generalised swelling, formation of papules (and it may be pustules), are the predominant features, whilst in chronic cases there may be marked dilatation of the capillaries and scarring.

If the patient is examined, he or she will in most cases show some seborrhœa capitis, and the face is often greasy. The earliest manifestations are commonly seen either on the nose, or on the malar region, and the patient complains of redness appearing after exposure to cold or heat; subsequently this becomes more permanent, the sebaceous glands become enlarged, form papules, and these become secondarily infected with staphylococci, forming pustules. In very marked old standing cases, there may be much venous engorgement. Generally, the disease remains at this stage, but, as with any chronic congestion, hypertrophy of the tissues may occur, and the condition of Rhinophyma (*q.v.*) may develop.

The disease itself is much more common in women, but the hypertrophic form is almost invariably seen in men. As it is closely connected with the vaso-motor system, we find that in many cases there is some internal disturbance. It may be, and very commonly is, the digestive system, with or without constipation, which is at fault; it may be the effects of poisons, such as alcohol, tea, coffee, or spices, acting on this digestive system; or we may be able to trace it back to uterine or cardiac disturbance. In any case, search must be made for any internal derangement. More rarely we may find intra-nasal disease to be responsible.

The treatment of the internal disturbance should be at first instituted, and the local treatment is very much on the lines of acne vulgaris. One has to remember, in connection with this last point, that the skin here is more sensitive. The use of soaps is contra-indicated; the patient should wash with tepid water (to which a little starch or oatmeal flour has been added), and should avoid exposure to heat or cold. (Incidentally, it may here be

mentioned that it is a common eruption in the case of engine-drivers or seafaring men, who are exposed to the rigours of the weather.) Lotions, with the addition of ichthyol, will generally give satisfaction, and should be followed later, if necessary, by the addition of some ingredient to remove the thickening. In other cases the zinc potash lotion will be found more suitable, and to complete the cure, if the disease is of long standing, it may be necessary to electrolyse the capillaries.

### **Acne Rosacea.**

This is to be treated on the lines of both the above conditions.

### **Rhinophyma.**

This disease used to be popularly called "the bottle nose," and is now, like the bottle, less common. Undoubtedly its worst manifestations were seen in the case of the man who could take his two or three bottles at night, but probably it is also less common owing to cases being treated earlier. In the early stage, freezing with carbonic acid snow is to be recommended; in the later stages, it must be attacked surgically. The operation is an easy, but a gory one; the only risk is that of perforating the alæ nasi. A broad bladed scalpel is used, and the parts shaved down until the proper size is attained, the finger being kept in the nostril while this is being done. The bleeding is readily stopped by means of an adrenalin and hot water, and the parts subsequently dressed by a soothing ointment. Some cases may be treated by a linear incision over the line of the septum, and a dissection of the skin; after removal of the hypertrophic tissue underneath this, the skin flap is replaced. In a well-marked case this is an exceedingly difficult process to perform, and it is scarcely necessary as the epithelium of the deep glands supplies islets, from which the nose is rapidly recovered with skin.

### Sycosis.

This is another allied condition, and may be regarded as seborrhœa plus staphylococcal infection of the hair follicles. It affects the moustache and the beard regions, and is one of the forms of foul shave, which may, however, occur in a person who always shaves himself. The early stage is the formation of a

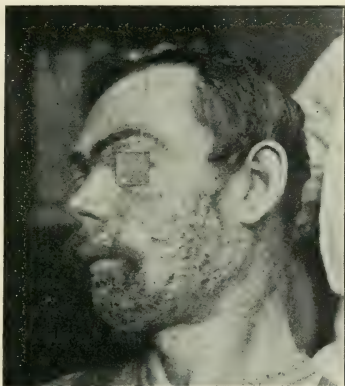


FIG. 4.—Sycosis.

small papule or pustule, on which a crust forms, and if neglected the disease may spread into areas around. It is similar to the impetigo of Bockhart, and is, like it, an infection of the hair follicles by staphylococci. Another mode of onset, other than from the irritation of shaving, is by nasal catarrh affecting the moustache region. Fully developed, the affected areas are covered with crusts, and here and there parts will be seen with the skin much swollen, cracked and oozing. The condition may last for

years, and in debilitated individuals assumes its worst forms, affecting even the eyebrows and eyelashes.

*Treatment.*—Again it is easy to kill staphylococci, but the difficulty is to get at them, especially when buried down in the depth of hair follicles, and in the later stage of the disease the whole skin is so markedly unhealthy that it will not stand strong antiseptics. An early attack yields the best promise. Boracic starch poultices should be applied to remove any crusts, and then a deep inunction of the following ointment twice a day, should be sedulously carried out:—

R	Sulphur. Ppt.	.	.	.	.	.	1 dram.
	Hydrarg. Ammon.	.	.	.	.	.	$\frac{1}{2}$ dram.
	Lanolini	.	.	.	.	.	1 oz.

If this does not rapidly produce improvement, then Ungt: Iodex should be substituted. The crusts should be regularly removed when either of these are used. Shaving should be carried out as usual, only care should be taken to disinfect the brush, use a sharp razor, hot water, and allow plenty of time. Of course, in a case that has gone on for years and is very extensive, and which is seen for the first time, it may not be possible to continue shaving, and clipping with scissors may have to be resorted to; but wherever possible, shaving should continue as before.

A useful method, which can be tried over small areas, is the application of blistering fluid. An area about the size of half-a-crown may be so treated, and the part subsequently protected by a soothing ointment. Epilation, if carried out by the practitioner, and only applied to the diseased hairs, will produce much benefit, but only exceptionally has the writer seen it satisfactorily carried out by the patient himself; he either does it imperfectly, pulls out healthy hairs, or goes on too long. The more drastic form of epilation, by means of X-rays, should be used only for chronic and widespread cases, and at the hands of the expert. If these

means fail (or even as an adjunct to the above plan), the use of vaccines should be tried. Stock vaccines, in doses from 25 to 500 millions should be given, increasing the dose according to the effect; these will often produce great benefit, but if not doing so, an autogenous vaccine should be prepared and administered instead.

## CHAPTER IV.

### PSORIASIS.

THIS disease bulks largely in all dermatological practice, forming 2 to 3 per cent. of all skin cases. It may be defined as a chronic inflammatory disease characterised by the presence of reddish papules covered with silvery scales occurring on the scalp, the trunk, and the extensor aspects of the limbs. The earliest stage consists of a minute pink papule slightly raised which, in most cases, gradually enlarges and which, on being scraped by the finger-nail, shows the typical silvery scales. The patches may become very large, either by eccentric spread or by the aggregation of several papules. Sometimes the disease grows in a circinate form, or large patches may disintegrate at the centre, forming again a complete circle. On the scalp, in well-defined cases, markedly thickened areas with heaped-up scales occur, but all degrees of this may be observed, some even being identical with ordinary seborrhœa. Generally, however, seborrhœa capitis is to be distinguished from psoriasis capitis by the fact that the first is diffuse, and the second is discrete and thickened.

The course of the disease is very chronic, and it is not uncommon to have the patient's statement that a patch has existed on the elbow or the knee for years and that the disease has suddenly appeared on other parts of the body. More frequently there is a history of recurrent attacks, generally worse in the winter (Scotland), attributed by some to the absence of the actinic rays, but possibly as much due to the greater irritation of winter clothing. The disease may commence very early in



childhood, and often it is then seen in a rapidly spreading form, in which the papules are small and occur all over the body. The more chronic type commences generally in early adult life.

It may be that one gets a history of some intercurrent disease lowering the vitality, or general nervous debility, which is at least blamed for an acute attack, but in other individuals no cause for



FIG. 5.—Psoriasis.

this outbreak can be traced. More than once the writer has seen it follow, or be followed by, an attack of rheumatic fever, and many of the patients will give a rheumatic history. Males are affected more than females, and heredity has been traced in many cases. This last point may be difficult to prove, as the disease is so common.

For teaching purposes, it is well to consider the disease as a seborrhœa, in which some constitutional change, very often rheumatic in character, has produced greater thickening of the patches. It will be said that the distribution of the two diseases is different, but patches of psoriasis are often to be noticed on the flexor aspects.

The pathology of the condition has never yet been cleared up. Deprivation of light is considered by some to be responsible, but miners, who work in the dark, suffer no worse than others. When the common distribution is considered the irritation and pressure of clothing explains much. In both sexes the fronts of the knees and the backs of the elbows are constantly exposed to rubbing; under the corsets in the female, and under the braces in the male, are also common sites. Micro-organisms are often blamed, but the proof has yet to be shown. There is no doubt in the writer's mind, however, but that the disease is auto-infective. One patient actually removed the scales and, after making slight abrasions, strapped them on in a cruciform manner on the back of his hand, with the result that psoriasis developed in that form on the said locality. It is a common observation to note that a scratch from a pin is followed by linear eruption of the disease, while the markedly thickened eruption seen on the lower part of the back and the buttocks in both sexes may be in part at least attributed to the falling down of scales and accumulation there. Microscopic appearances do not help us much, as they only reveal a thickening of the Malpighian layer of the epidermis, with a dilatation of the blood vessels, and an exudation of small cells round these. The earliest stages are identical in appearance with that of a miliary abscess.

*Differential Diagnosis.*—Syphilis is generally distinguished by the feeling of greater thickening. It may also be that the eruption is more coppery coloured, and in the secondary stage, which most closely resembles a widespread psoriasis, there are

other secondary symptoms. The history of former attacks would point to psoriasis, but a rapid onset of the eruption, with marked involvement of the face, is in favour of syphilis. The tertiary manifestations of syphilis are generally more localised, and may easily be mistaken if care is not exercised.

Lichen planus affects more commonly the inner aspects of the knees, the fronts of the wrists, and the legs below the knees. The patches here are more angular, not generally so large, not circinate nor scaly, and are very itchy. While psoriasis, especially after treatment, may show some pigmentation, the pigmentation following lichen is much more dense.

Tinea Circinata, if thickened, may simulate, but the edges are more vesicular. It is generally more localised, and a scraping examined under the microscope will clinch the diagnosis.

*Prognosis* is not satisfactory. The disease, as has been indicated, may last for a lifetime and never cause much inconvenience, but an acute attack may necessitate the patient leaving off work. Thorough treatment, and the complete obliteration of all spots, is the best hope for the patient having a long period of freedom from his trouble. One feels convinced that if patients were made to understand this more, and to treat as serious, the earliest stage of recurrence, there would be a great economic saving. It is difficult also to get the patient to carry out massage and other remedies for six months or a year after all signs of the disease have been abolished, but if that could be done the writer believes that recurrences would be less common. There is no need for the patient to take a pessimistic attitude, although a guarded prognosis should be given by the physician. A certain percentage of cases get all right and remain so for years.

*Treatment.*—In the treatment of all widespread skin conditions, vaso-dilators such as alcohol, tea, coffee, etc., should be barred, and it is essential here. Vegetarianism, if it suits the patient's digestion, is undoubtedly beneficial; in fact, dietary for the

ordinary arthritic rheumatism should be carried out judiciously. Salicin 10 to 30 grains thrice daily is most satisfactory, especially in the spreading cases. Iodides are of value in these also, but more so where there is much thickening. Thyroid has not given the writer many encouraging results, although some authorities still praise it. Arsenic, formerly used as a routine method, should never be used except in chronic isolated patches. It undoubtedly aggravates an acute case, and when given the patient should be warned against prolonged treatment.

Locally, rest in bed must be insisted upon for widespread cases.

It has been remarked that rest in bed is of value from three points of view. Firstly, uniformity of temperature; secondly, freedom from irritation; and thirdly, facility for the application of remedies. In no skin condition are these probably more necessary than in the case of psoriasis. In general the psoriatic will only accept this as a last resort, consequently most of the cases requiring it are acutely inflamed.

If inflammation is present, it may be necessary at first to treat with simple vaseline and a daily sponge bath. Alkalies are of value in the bath because they soften the epithelium, but in very acute cases they are not tolerated. A pale pink solution of permanganate of potash is to be recommended, chiefly because of its mild alkalinity and its disinfecting action. Later, carbonate of potash in the strength of from a dessertspoonful to a tablespoonful of the salt in a 25-gallon bath may be used, and if the results are satisfactory, it may then be made stronger. Sulphur baths, such as these made from potassa and calx sulphurata, may be similarly employed, and of course have a direct action on the glands of the skin, but if possible, when sulphur is used, it is best to use some of the natural sulphur waters. Salicylic ointment, in strength gradually increasing from 2 to 20 or 30 grains to the ounce, is commonly employed, but if there is much inflammation a zinc paste with the salicylic acid should be substituted for the ointment.

At the risk of recapitulating one must again remark that the strength of the drugs used are to be gradually increased according to results, and that it is always better to commence with weak preparations. In the majority of cases the employment of the salicylic ointment and baths will be followed by removal of the scales, and then tar in some form may be used. Crude liquid gas tar<sup>1</sup> is probably best of all, and the whole body should be gone over in parts so that each part gets a painting once a week. The value of the tar for removing the thickening is very manifest to those who are accustomed to use it. It is a dirty preparation, but if allowed to dry on and the parts are subsequently dredged with some innocuous dusting powder, there need be comparatively little staining of the clothing. In a certain percentage of those so treated, toxic symptoms indicated by sickness and renal trouble may supervene, or a pustular infection of the follicles may appear, both eventualities necessitating at least temporary stoppage of the tar.

A more severe method is the use of chrysarobin. This is probably the most powerful of escharotics used for the disease, and is as potent for evil as it is for good. Firstly, the patient must be told to search out old bedding and clothing, because these will be stained a permanent purple. Care must be exercised that the face is protected by a linen mask, because chrysarobin, if it reaches the eye, will cause a severe conjunctivitis. 1 to 10 per cent. of the drug is applied either in ointment or paste, and the worst parts are treated by using the application on spreads of white cotton. The renewal of this should be carried out at least twice a day. In a few days the skin turns very dark red, and the scales having come off the psoriatic patches, these stand out prominently owing to their pale colour against the dark red background. A few days later the diseased patches gradually also become reddened, and the idea is to continue until the whole

<sup>1</sup> The crude liquid gas tar is simply washed by means of water. Further purification removes active ingredients.

skin becomes homogeneously red. Unfortunately, certain parts get a larger dose owing to the rubbing and to their situation, and on these an acute exfoliation may occur. It will be found advisable then to soothe these parts with plain zinc paste while continuing the treatment elsewhere. The effect varies, partly because the drug is not uniformly reliable, and partly owing to personal idiosyncrasy and the state of the patient's skin for the time being. The writer has seen a patient, two days after the commencement of the application, developing a temperature of 103° F and having convulsion fits. On the other hand he has seen patients go on for six weeks with the treatment, which, although beneficial, has yet not produced complete obliteration of the diseased areas. Frequent examination of the urine should be made as albuminuria and darkening of the urine precede the headache and sickness of a general toxæmia.

Applications of pyrogallie acid, oil of cade, and other tars, are frequently found of value, and for ambulatory cases perhaps as good a remedy as any consists in the use of salicylic vaseline and the painting on of a 10 per cent. solution of tar in either benzole, acetone, or tetra-chloride of carbon. In chronic patches some authorities recommend a combination of coal tar, chrysarobin, pyrogallie and salicylic acid, with sulphur and soap. There may be safety in these numbers, and although there is no certainty that any are effectual, yet experience proves that sometimes this disagreeable preparation gives good results. The ultra-violet rays, whether obtained from the mercury vapour lamp, or from the sun, or from any other source, are at times wonderfully successful in removing obstinate patches. The use of X-rays, at one time strongly urged when these were considered *à la mode*, should be confined to the treatment of chronic thickened patches. A half to one pastille dose, given once in three weeks, is the best method of employment.

## CHAPTER V.

### INFECTIONS OF THE HAIRY SCALP.

#### Ringworm.

RINGWORM is a disease due to a fungus, varied in form and acquired from numerous sources. The whole subject has been thoroughly gone into by various observers, the chief amongst these being M. Sabouraud. A large number of fungi have been discovered; in fact, we have a range extending from ringworm on to favus. Clinically, we divide the cases into two types—the large and the small spore. The methods of infection may be from human being to human being, either directly or by the clothing, but it is also spread by various animals, the chief amongst these being the dog, the cat, the horse, the cow, but even the hen and the canary have been found to be sources of infection.

Ringworm of the body generally occurs, if from a lower animal or a human being directly, on the exposed parts of the body, but if conveyed by the clothing it may occur on the covered parts. The modern cult of sending all clothing to an outside laundry is responsible for the spread of the disease on the covered sites. The earliest manifestation is a small, slightly-elevated hyperæmic spot, sharply limited at its border. This gradually spreads from the centre, and, while the advancing edge becomes more scaly and generally vesicular, the lesion commences to fade in the centre.

Fully developed, the eruption is characterised by rings varying greatly in size; these are red, slightly scaly, and show vesicles, which may contain serum or have become pustular. It is not



uncommon to see two or even three rings within each other. There is slight itching generally present, but only in the form of kerion (*q. v.*) is there much swelling. If a scraping of the scales is taken by means of a sharp spoon, and these scales soaked in liq. potassæ, the mycelium will be found on microscopic examination with a high power lens. The liq. potassæ acts by dissolving the epithelium and so making it translucent, while the



FIG. 6.—*Tinea Circinata* of the back.

fungus being more resistant stands out clearly with transmitted light. The process may be hastened by gentle heating of the slide, but in any case time must be allowed before one is certain that there is no fungus present even after a careful preliminary examination of all the scales.

The sites usually affected are the face, neck and hands where the differential diagnosis between erythema, seborrhœa, and



impetigo is a commonly recurring one. Erythema is not scaly and is generally much more multiple while occurring on the hands and face. Seborrhœa has often yellowish scales, and an accompanying distribution on the flexures while it has not the vesicular edge. Impetigo may complicate ringworm, but, if occurring alone, generally shows more definite crusting and numerous lesions on other areas. While the above is true, even in the hands of the expert, a microscopical examination has to be carried out before a definite opinion can be given in some cases.

A more specialised form, called in tropical countries "Dhobie's Itch," is found on the groins and axillæ. In this form swelling and crusting may occur, due perhaps to the moisture of the parts and the climatic conditions. It is a curiously interesting fact that along with this there is often found an affection, mild or severe, between the toes.

On the nails of the hand the disease is fairly common, and where there is a chronic history and the nails show horizontal lines near the free border with fimbriation of the edges, suspicions should be aroused. The microscope will again be relied upon to confirm the diagnosis.

*Ringworm of the Scalp.*—This condition is characterised by the presence of greyish scales, a slight redness, and the occurrence of broken hairs. The whole scalp may be involved, but in most cases it will be noticed that there are circular areas where the hair is thinner, and on close examination of these parts by means of a magnifying glass, short hairs, sometimes standing out, covered with a white sheath, at other times twisted, will be noticed. When very extensive, there is nothing but the general thinning and the broken hairs.

Another type, not so common, is the bald ringworm, where the complete denudation of one or two circular patches attracts the eye. On close examination, here it will be found that the hairs are not completely absent, but that they are broken off close to the

mouth of the follicles giving the appearance called "Black Dot." Sealing is not present in this type. Tinea kerion is a form of the disease, in which there is a severe inflammation and consequent swelling of the skin. It has been defined as Nature's attempt to cure the disease, and Nature certainly succeeds in this case in limiting its spread. The area affected is swollen, and while it may be crusted, pus can be observed exuding from numerous points underneath—the whole appearance closely simulating a



FIG. 7.—Ringworm of the Scalp.

superficial abscess, and often wrongly incised as such. This form of the disease is often due to an animal fungus, and while seen most commonly on the head may also occur on other parts of the body.

The microscopic examination of the hair for the fungus is similar to that of the scales. Care must be taken to remove broken and short hairs for this purpose. There is not the same room for growth, and therefore the diseased hairs mostly show

spores, therein being different from the scales where mycelium predominates.

Two main types are seen—the small spored ectothrix, where the white sheath of fungus is found microscopically to be composed of a mosaic of spores uniform in size, and the large spored endothrix where the spores are arranged in chain formation and are inside the hair. The beginner is apt to be misled by fat globules, which, however, vary in size, and are more refractile. It cannot be too often impressed upon the observer that time must be allowed to render the hair translucent, that the search should be careful, and that the suspicious-looking hairs should be the ones to be removed for microscopic examination.

The differential diagnosis is generally clinched by the above diagnosis. Clinically, a prolonged history and the presence of broken hairs and scales are details of the greatest moment.

Alopecia areata occurs in circular patches, but is completely bald except at the edges. It is often helpful as a late diagnostic sign to note that in alopecia areata owing to the atrophy of the roots the new hairs generally grow in devoid of pigmentation.

Seborrhœa is more diffuse and the scales are yellower. Impetigo is generally crusted, there is a recent history, and usually there are affected areas on the face.

As will be discussed later, tinea capitis is exceedingly rare in adults—the writer has only seen three cases—and this is helpful in diagnosis.

*Treatment.*—The fungus is easily killed where it can be reached, and, therefore, except in the case of the scalp and nails, the cure of the disease is quickly obtained. Iodine has long held priority of claim in the treatment, and the ordinary tincture applied with discrimination, cures the condition in about ten days. The only difficulty is that this preparation forms a hard cake on the surface, which may have to be removed from time to time. A good routine plan, therefore, is to paint on the ordinary tincture

of iodine twice weekly, and cover the parts during the interval with the following ointment :—

R	Sulphur. Præcipitati	.	.	.	1 dram.
	Hydrarg. Ammon.	.	.	.	$\frac{1}{2}$ dram.
	Lanolini				
	Vaselini āā	.	.	.	$\frac{1}{2}$ oz.

preferably spread on white cotton, and strapped down to prevent infection of adjacent parts. A very useful preparation also is the oleate of iodine, or the proprietary preparation, viz. ungt. iodox. The possibility of spread by clothing should always be kept in mind, and precautions should be taken accordingly.

Kerion requires more tender handling, and the first application should be soothing in character, the best of all being boracic starch poultices. These should be continued until the swelling is reduced, and then the cure can be completed by either of the above methods.

The disease, when affecting the nails, often requires prolonged and vigorous treatment, and necessitates the use of some chemical agent which will soften the keratin. Harrison's plan of using two solutions is perhaps as good as any—

(1)	R	Liq. Potass.	.	.	.	$\frac{1}{2}$ oz.
		Potass. Iodidi	.	.	.	1 dram.
		Aq. Destillat.	.	.	.	$\frac{1}{2}$ oz.
(2)	R	Hydrarg. Perchlor.	.	.	.	grains 4.
		Spt. Vini.				
		Aq. Destillat. āā	.	.	.	$\frac{1}{2}$ oz.

No. (1) solution is applied to the nail for fifteen minutes, and, while softening the keratin, also introduces the iodide into the substance of the nail. No. (2) solution is then applied on soaks of lint for twenty-four hours, and we thus obtain the action of the nascent iodide of mercury on the softened nail. Before and

after this, as much of the diseased nail as possible should be removed by scraping or by scissors. A soothing zinc paste is generally used for a few days afterwards to allay the inflammation; thereafter, the writer finds it useful to employ the oleate of iodine ointment for a week or two, and then repeat Harrison's method again.

Norman Walker uses Fehling's solution, which is a strong alkaline solution of copper, more irritating than the above. While it is applied for an hour or slightly longer, the skin surrounding the nail should be protected with zinc paste. With this method the nail is much more rapidly softened, and he advises removal of as much as possible by the use of a glass slide or scissors. With either plan, in a case which is at all severe, the treatment takes months, and even years.

Ringworm of the scalp might be defined as the *bête noir* of dermatology. Fortunately it is exceedingly rare in the adult, and in the case of the child a subtle change takes place in the scalp at puberty which results in a natural cure occurring. As the condition is exceedingly common and occurs at a time of life when education is so important, much tribulation occurs in the household affected, and plans have been adopted to counteract this difficulty. In Edinburgh, as in many other towns, schools have been instituted where the education of the child and the medical treatment are carried out simultaneously.

The crux of the position as regards infection in this region is that the fungus penetrates down into the root of the hair follicle, and the antiseptic cannot reach it. Epilation by forceps, in skilful hands, will cure an early case, because the diseased hairs are removed and open follicles left into which the ointment can go. In extensive cases, however, this method is, humanly speaking, impossible. Realising Nature's plan of producing a severe inflammation to localise the disease, Aldersmith and others have strongly recommended the use of croton oil, which, when intro-

duced into the hair follicles by a needle, and also rubbed on the surface, produces a violent inflammation. When this subsides the diseased hairs may be more easily removed, but the croton oil can only be applied over limited areas, and there is always a certain risk of producing permanent baldness if the method is recklessly carried out. Blistering fluid is similarly used, and on limited areas is also of value.

Whitfield uses equal parts of sodium chloride and vaseline rubbed over the scalp and left on for a little time. It causes pain and a certain amount of inflammation, so that the part has to be bathed subsequently with hot water. If used every night for a week or so, many diseased hairs will come out, but the writer has found that this method is too apt to produce pustulation, and too painful for the ordinary patient. The routine method adopted in Edinburgh is as follows:—The patient is instructed to have all the hair clipped off, to wash the scalp daily with ordinary soap and water, and night and morning thoroughly rub in the sulphur and ammoniated mercury ointment given under ringworm of the body.<sup>1</sup>

Another detail of treatment should never be omitted, and that is the keeping of the head-gear clean. This is most readily attained by advising that the lining of the hat should be changed daily, and boiled, in the case of linen or cotton, or simplest of all, a piece of newspaper be used as a lining. With these methods, cure should be obtained, in the majority of cases, in from three months to a year.

<sup>1</sup> Some years ago the writer performed a number of experiments on guinea-pigs, with a view to finding out what was the most penetrating excipient for general use. Details have been given elsewhere, but in brief he used a scarlet-red as a stain, with various excipients, and cut sections later to see how deeply the stain had penetrated. Goose grease and olive oil were *facile princeps*, but the first is expensive and difficult to get, and the second is not miscible with most chemicals. Of mixed excipients, equal parts of hydrous lanolin, and glycerine of starch, or benzoated lard, gave the best results, but in some cases they seemed to irritate the skin.

The use of X-rays which has been proved a more powerful means of producing complete depilation is now a definite routine plan in large centres. It is not the writer's purpose to go into details of X-rays, as this is a matter purely for the expert, and it is sufficient to say that a measured dose is given to each area of the scalp, which produces a temporary atrophy of the hair follicles, resulting in the falling out of the hair in from ten days to a month. A completely satisfactory exposure leaves the head bare as a billiard ball, and as with the hairs comes most of the disease, the surface is readily treated by any of the above ointments. The hair does not fully grow in till about three months afterwards, so that there is ample time for the action of local remedies on any disease left. The risks of imperfect results devitalising and irritating the scalp while not producing complete depilation, or of doses producing permanent baldness, should be explained to the parent, but at the present state of our knowledge they still exist. Future years may bring forth a greater accuracy and reliability, but even at present, in large communities where segregation is impossible, the method is to be recommended, as the failures only represent 1 or 2 per cent. Our experience in Edinburgh has now been pretty long, and the writer can, therefore, speak with some authority.

### **Ringworm of the Beard.**

This is one of the three types of "foul shave" of which the other two are sycosis and impetigo contagiosa.

The eruption may be of two varieties, the superficial and deep. The superficial is scaly and often shows a ringed outline. The deep variety, which is really a kerion, appears as hard nodules varying in size from a pea to a small tomato and generally shows a follicular pustulation. Very frequently the diagnosis of abscess is made and the lesions wrongly incised.

The history generally obtained is that of a man going to a barber for a shave, and two or three days later feeling the part itchy with subsequent evolution of nodules.

In Edinburgh the superficial variety is rare, while in London I understand it is common.

The differential diagnosis of "foul shave" very often is a subject of discussion, and the following points may be found helpful:—

1. *Does the man shave himself or go to a barber?* If the former, then it is most likely to be sycosis. If the latter, then any of the three types may be acquired.

2. *Duration.*—Sycosis lasts for years, tinea barbæ for months, and impetigo contagiosa for weeks.

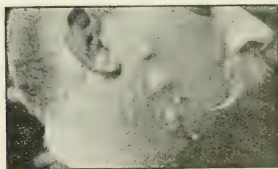


FIG. 8.—Ringworm of the beard.

3. *Appearances.*—Impetigo contagiosa is superficial and has stuck-on crusts, sycosis affects the hair follicles and often shows the hairs protruding out of a follicle full of pus. There is frequently generalised swelling and redness and may be much crusting and scaling.

Seborrhœa capitis generally accompanies it, and in debilitated individuals the eyebrows and eyelashes may be affected. Tinea barbæ if superficial is scaly and ringed, and if nodular gives the feeling of soft indurated deep-set nodules when examined by the fingers.

4. *Examination of the hairs.*—In impetigo contagiosa these are not readily epilated by forceps.



In sycosis, unless from the centre of the pus, the hairs are also not easily removed, and, if so, often show a gelatinous mass attached to the root.

In tinea barbæ of the superficial type some hairs at the edge may come out readily, may be broken and look devitalised, and if these and the scales are examined microscopically after soaking in liq. potassæ the fungus will be found. In the deep nodular form of ringworm, the hairs come out readily, and although there may be some difficulty, yet if the short hairs at the edges are examined microscopically as above, the fungus will be found.

The infection is obtained through the shaving brush, and barbers should be compelled to disinfect these more thoroughly than they do.

At present any local regulations are more honoured in the breach than in the observance, and the public have no redress, as it is practically impossible to prove that infection was directly due to the fault of the barber. Candidly, in the majority of cases, laziness meets a due reward and a man should shave at home. Still there are occasions where this may not be feasible.

*Treatment.*—In the superficial type the various ointments mentioned above will prove quite efficacious, tincture of iodine being applied also twice a week. The nodular type is treated as for kerion.

The question will generally be asked, "Should the patient shave?" and the answer should almost invariably be "yes."

If very acutely inflamed, the parts may be at first treated by clipping with a pair of scissors, but as soon as possible the whole beard region ought to be regularly shaved.

To prevent infection the patient should be advised to boil an old brush each time after use, or if the brush is a good one, it must be immersed immediately after use in lysol or formalin

solution up to the full length of the bristles. It is important thereafter that the antiseptic be thoroughly washed away by sterilised water before the act of lathering.

Epilation by means of forceps will certainly expedite the cure. As the diseased hairs are loose, it can be more readily carried out by the patient himself in this disease than in sycosis. The practitioner must consider the mentality and the dexterity of the patient, but if possible the physician in charge should personally epilate once a week. The disease in most cases persists for months.

### **Favus.**

A disease closely allied to ringworm and with which there are intervening links. Like tinea a fungus is causative, but this fungus is more destructive and more difficult to kill. Occurring amongst animals, the disease produced is often fatal in mice where the skull is penetrated by the growth. The cat catches the mouse and the child fondles the cat and so acquires the disease.

Formerly rare in this country, many cases are now found, although the neglected cases are probably dying out. Some years ago it was not uncommon to find youths and young women who had suffered from the disease since early childhood, and been deprived of education owing to their being infective. Such cases are still occasionally seen.

A difference in history from that of tinea will be noted. Tinea dies out at puberty, but favus goes on till every hair is destroyed.

The yellow scutulum is rather a shield seen from the inside—even to the little knob in the centre—and varies in size from a pin head to a circle half an inch in diameter. Frequently a hair is seen at the centre, and the depression is partly fictitious owing to overgrowth of the fungus at the edge, and partly real from necrosis of the tissues underneath.

In addition to the growth of fungus thus described, the mycelium grows up inside the hair—not, however, destroying the imbrication of the outer layers—and consequently the hair does not break so readily and may remain long, but assumes a lustreless appearance often called hay-like. When diseased hairs are pulled out, they often show a gelatinous swelling at the root.

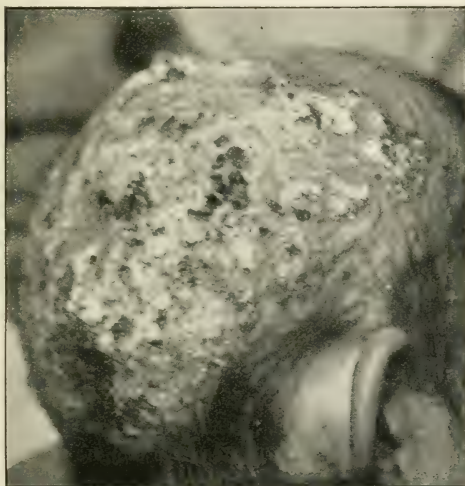


FIG. 9.—Favus.

On the areas where destruction has taken place scarring is seen which may be red and swollen or white according to whether the destruction is recent or old. The mousey odour of a definite case is characteristic and is not readily mistaken for anything else.

In a fully developed case, the yellow scutula, hay-like hair, mousey odour, and the baldness with scar formation, form a picture

which is distinct from any other skin condition and unforgettable. The early treated cases are those which give rise to errors in diagnosis. Even in these cases some small scutula the size of a pin-head may be seen, but, if not, the hair will show some diminution of lustre and microscopically will exhibit mycelium in the centre. The examination is carried out by liq. potassæ according to the method described under ringworm, but a longer time for soaking is generally necessary. If examined promptly, the liq. potassæ may be observed pushing air bubbles out of the dead mycelial threads, but this is only seen in some types. The more general appearance is that of tubules of mycelium, some obviously dead, running up through the hair, with here and there possibly a division of the mycelium into spores. The scutula, if examined, show masses of spores with very little mycelium. This is the reverse of ringworm, where the scales show a preponderance of mycelium, the hairs a preponderance of spores.

In treated cases diagnosis must depend on the very chronic history, the red-scarring, the lustreless hair, and lastly again on the microscopic report.

On the body generally this disease is frequently found apart from or accompanying the disease on the scalp. Recently the writer has seen several cases affecting the eyebrows. On the trunk and limbs the patches, unless crusted, may be identical in appearance to tinea, but on the average they are more reddened and more resistant to treatment. Scutula may occur, but, as often, heaped, irregular yellow masses are noticed. Favus of the nails is exactly similar to tinea unguium.

*Treatment.*—Iodine, sulphur, and ammoniated mercury ointment, and oleate of copper are generally employed with success on the body. Resorcin, ten to thirty grains in the ounce of ointment, is favoured by many. The result is assured if thoroughness is insisted on, although it takes longer than tinea corporis. Favus of the head is only curable by X-rays administered as for tinea

capitis. As the disease itself will produce baldness, the patient or the parents need have no qualms about possible risks of permanent baldness from the X-rays used. It will often be found that the exposure has to be repeated about six months later owing to the greater tenacity of the fungus.

If special schools are necessary for ringworm cases in children, they are much more so for children suffering from favus.

### **Alopecia.**

The problem of this condition is one with many sides. Heredity, as exemplified by its continual early appearance in certain families, is undoubtedly of great importance. Seborrhœa capitis is also a very common precursor, if not a causative factor, in the disease, and environment, such as exposure of the scalp to strong artificial light or heat, or pressure from caps or hats, undoubtedly is also causative in some cases. A temporary form of the condition from impaired nerve and blood supply is seen following erysipelas, exfoliative dermatitis, influenza, and many of the fevers; they probably act like a pastille dose of X-rays, by producing a temporary atrophy of the hair follicles, and the subsequent growth of the hair is generally exceedingly good.

Essentially, the treatment of commencing baldness depends on finding out the chief causative factor. Many cases will be found to yield readily to the treatment of the seborrhœa, and, if the hair which has fallen out is not always replaced, the subsequent spread is prevented. The general hygiene of the hair should consist in frequent washing without soap, and thorough brushing and massage by the hand every night. In the male sex, the stiff hat is rapidly now becoming extinct, and its influence will therefore be eliminated. In the writer's opinion, the barber is distinctly under suspicion, and after the necessary visit to him the scalp should be thoroughly washed with alcohol. The motto

for treatment should be "commence early, and carry out thoroughly."

### **Alopecia Areata.**

The first symptoms of this disease may be a slight itching or burning on the scalp, but often the first thing to attract attention is the appearance of a small circular area of baldness. When examined under a lens there will be often noted the point of exclamation hairs at the edges, or the part may be thoroughly



FIG. 10. --Alopecia Areata.

denuded of hair, with only some little stumps noticeable at the edge. The skin of the scalp is not reddened, and apparently unaltered. If the disease has lasted for some time, fresh downy hair will be observed in certain areas. The condition is due to a temporary atrophy of the hair follicles, and as this atrophy disappears the capacity for production of hair reappears, but only later comes the capacity for production of pigment.

Occurring at all ages, the disease may spread by the subsequent appearance of other patches, and the whole scalp become eventually

involved; not only so, but all the hairs of the body may become affected. It is of interest to notice in these cases, during the progress of the attack, that there are often bilateral patches appearing symmetrically on each eyebrow, on each side of the chin, or on each side of the upper lip. Generally, the most common seat of attack is the occipital region. Another variety is described as the "band" type, which spreads all round the fringes of the hair of the scalp. While alopecia areata, commencing on the scalp, may spread to the rest of the body, the writer has never seen a case originating on the chin or the upper lip which had spread subsequently to the scalp. One or two patches may appear, become recovered, and no fresh attacks ensue; in other cases the disease seems to remain latent, fresh outbreaks occurring every year or two. The worst cases are those in which the whole scalp becomes bald, and remains so in spite of all treatment.

Both sexes and all ages suffer, although it is rare before 5 and uncommon after 40. In school children it is very frequently seen in an endemic form, and the same has been noted to occur in barracks; this is a very strong proof of the infectious nature of the disease. On the other hand, no organism has been found to be pathogenic, although, if the exclamation hairs are taken, stained with gentian violet and examined under an oil-immersion lens, minute spores can be observed in the structure of the hair. Many instances occur in which worry, anxiety, or more definite neuralgia precede the outbreak in the case of adults; other authorities consider that any nerve strain, whether from the teeth, the eye, the ear, or the nose, is responsible. The evidence on all sides is strongly in favour of a parasitic origin, and probably the nerve affection, especially in adults, may be necessary to lower the vitality of the part before infection can take place in their case.

The differential diagnosis is generally easy. In the adult, ringworm can be excluded, but in the child there may be some



difficulty. A typical ringworm is of course slightly reddened and scaly, whereas the scalp in this condition is unaltered. The "black dot" type of ringworm is the form which leads to the greatest confusion, and very often it may be necessary to have a microscopic examination before making the diagnosis. An important late diagnostic symptom is the growth of white downy



FIG. 11.—Alopecia Areata, showing downy growth of hair.

hair in alopecia areata. Lupus erythematosus produces areated baldness, but the areas are not so markedly circular, are obviously scarred, and often reddened and scaly. Ordinary scars following injury may often be mistaken for this disease.

*Treatment.*—The presence of pediculosis and seborrhœa is a fertile cause of the spread of the disease, and must be first treated,



if present. If a patch is seen early, the simplest line of treatment is to paint with acid carbolic liq. This can be done about once a fortnight, or as soon as the irritation of the previous painting has subsided. To prevent infection of the hair generally, frequent washing should be advised, as well as the inunction every night of an ointment containing 10 to 30 grains of salicylic acid. It may be advisable to use a lotion instead of the ointment, and this may be composed of resorcin, salicylic acid or lactic acid, 1 to 2 drams of each in 4 oz. of spirit. A very useful stimulating lotion is sometimes efficacious. The formula used in the R.I.E. is:—

R Liq. Ammoniae Fort.

Chloroformi

Olei Sesami āā  $\frac{1}{2}$  oz.

Olei Limonis  $\frac{1}{2}$  dram.

Spt. Rosmarini ad 4 oz.

The lotions used in this connection are very numerous, and as all are about equally valueless, the examples given are among the best, their whole action is that of slightly stimulating antiseptics. Jaborandi has probably a more special effect as a glandular stimulant, and it is often of value in the later phases of the disease. It can be used in ointment, in the strength of about  $1\frac{1}{2}$  drams to the ounce of vaseline. Very obstinate and severe types of the disease are best treated by ultra-violet rays or electric treatment, and either of these does exceedingly well if persevered with for a sufficient time. The aim of all treatment should be to ensure complete removal of all signs of the disease. If this is not done the patch or patches left form a centre from which the disease again may spread.

## CHAPTER VI.

### URTICARIA, ERYTHEMA AND ALLIED CONDITIONS.

#### Urticaria.

URTICARIA is an inflammatory affection characterised by red or pink evanescent swellings or wheals, accompanied by itching or tingling. No special part of the body is affected, but the trunk is the most common site. Very often there is a history of gastric derangement or the partaking of some indigestible material such unripe fruit or shell-fish. Dermographism is noticable during an attack, and in some cases apart from the outbreak, indicating probably that the skin of the patient is susceptible. It is important to remember that similar lesions may occur on the mucous membrane of the alimentary canal throughout its whole extent. The condition may become chronic, fresh lesions appearing daily and continuing till the cause is removed. One type of the disease, known as urticaria perstans, shows lesions lasting for several days. Papular urticaria (*Lichen Urticatus*) is often seen in children in the form of an itchy papular eruption on the trunk—isolated wheals being generally present at the same time. The child suffers very much from the irritation, taking every available opportunity of scratching and so converts the wheal into the more permanent papule. Bullous urticaria, in which the lesions are much larger, is occasionally seen.

Attacks may occur at all ages and in both sexes but naturally the worst manifestations are seen in early childhood when the nervous system is still susceptible.

External irritants such as the sting of a nettle, the bite of a flea or even scabies may be responsible. In children especially a chronic papular urticaria may be entirely due to fleas. Where a history of recurrent attacks without gastric manifestations is obtained in childhood, it will often be traceable to the activities of this agile insect. The grouping in certain regions, the napkin region in a baby for instance, and the minute petechial centre (scarcely noticeable) should rouse suspicion. The finding of the offender requires at times a diligent, repeated search by an active nurse or mother before it can be found. I have known one industrious insect to bury itself in the mattress every morning after a night's activity.

These external causes being eliminated the search for the internal cause is then proceeded with, and in chronic cases this search also is often very difficult.

An acute case can generally be traced to special articles of diet, of which the commonest are unripe fruit, nuts, pork, or shell-fish, but in other cases we may have to simplify the diet down to citrated milk, and then by the gradual addition of other foods find out what is the offending article. There is no doubt that there is an idiosyncrasy to certain articles which may be either temporary or permanent. The writer has seen a case where white of egg, even in such small quantity as is contained in a chocolate cream, produced severe urticaria with œdema of the lips and violent sickness. The same patient, when a spark of white of egg from a frying-pan fell on her hands, suffered from local urticaria. The above case is an extreme one, but all degrees and varieties have been recorded.

Definite drugs, such as the antitoxin of diphtheria, salicylates, iodides and copaiba, will all be found to be responsible in isolated cases, and in others nerve irritation from uterine trouble, intestinal worms, or a severe fright. In the writer's experience, the disease is found much more commonly amongst those who have lowered

nerve vitality, and in one case no distinct cause was ascertained and no relief obtained until rest in bed and freedom from household and social duties were insisted on. The toxin produces a vaso-motor disturbance, with dilatation of the blood-vessels, and this in turn produces redness of the part as the first phase, and may remain the permanent one in the form of urticaria rubra. In most cases exudation of serum rapidly follows, and the area becomes white and raised with a red margin, the whiteness being in part due to the serum and in part to the pressure of the serum on the blood vessels. The whole field of action is the true skin, the epidermis being unaffected. Some writers, such as Paramore, consider that the diminution of the calcium content of the blood is responsible, and in experimental cases found that citric or oxalic acid made the condition worse, while calcium chloride removed it.

*Treatment.*—If a history of a definite article of diet is at once obtained, then the old-fashioned castor-oil or grey powder is probably all that is necessary, but in many cases it requires prolonged search to find out the definite cause. Immediately a starch bath will be found to ease the irritation, and unless in the case of the throat or larynx being involved, there is no urgency; but where these last are involved, an emetic is best given promptly.

In chronic cases a lookout must be kept for nephritis and hepatic or uterine disturbance. A simple milk diet, with the addition of some citrate of soda, is a safe line of procedure, and ichthyol in 5 to 20 minim doses four hourly, may simultaneously be given. Where there is obvious stomach disturbance, magnesia, bicarbonate of soda, salol, and beta-naphthol, are to be recommended. Other cases yield to antipyrin, salicylates, or atropin. Locally, in addition to starch baths, borocalamine lotion may be ordered with or without the addition of 2 to 5 per cent. of ichthyol, or 5 per cent. ichthyol ointment may be applied on spreads. Electrical treatment of either high frequency or static type is also worth a trial in obstinate types of the disease.

### **Urticaria Pigmentosa.**

In its early stage this disease resembles a pure urticaria and often later wheals can be produced by rubbing, but the general peculiarity of the disease is the appearance of light or dark brown pigmented nodules. Commencing early in life, very often in the first few months, treatment seems to have no effect, and the disease ultimately disappears after puberty. Microscopically a preponderance of mast cells is found in the disease.

*Treatment.*—Beyond attending to digestion and excretion, and perhaps the administration of ichthyol internally, nothing has been found of any avail.

### **Erythema.**

This disease may be produced by external or internal causes. Erythema pernio illustrates the effect of cold; erythema solare follows exposure to excess of light or heat, and erythema multiforme and erythema nodosum are produced by internal toxins as a rule.

### **Erythema Pernio.**

This disease affects the hands, feet, nose, and ears, and the first manifestation is slight redness and troublesome itching. Vesicles and bullæ may then form, and ulceration set in. In the worst form it is associated with Raynaud's disease, but the more common type is seen in the case of young and old people. It may be at once said that prevention, rather than cure, should be aimed at in this disease. Anæmia or cardiac disease should be treated systematically, and the local circulation is to be improved, especially during the summer months, by massage or electricity. The provision of proper handwear or footwear is essential, great importance being laid on the fact that there should be no constriction round the wrists or the ankles, or on the digits

themselves, and that the covering next the skin should be unirritating. The patient should be warned against sitting near the fire, using hot-water bottles, and exposing the parts to cold.

If these simple hints were inculcated, the writer is certain there would be much less liability to the disease than there is at present. The case of two sisters may be mentioned, one who carefully massaged the hands and used the ordinary faradic battery during the summer, with the result that she was free from the disease during the winter, while the other foolish virgin paid the penalty of her neglect.

Lime salts internally have long been favourably considered. Calcium Lactate in  $2\frac{1}{2}$  gr. doses is perhaps most suitable and sometimes is beneficial. When the eruption first appears, painting with tinct. of iodine, or a  $2\frac{1}{2}$  per cent. solution of silver nitrate in spt. etheris nitrosi may often check it in the early stages. Ichthyol, in 10 per cent. solution in water or made up with vaseline, and kept constantly on the parts at night, will also give great relief, and has the advantage that it may be used when the skin is broken. Argyrol paste, varying in strength from 10 minims up to a dram per ounce, has also given satisfaction in the writer's experience. Formalin, in weak or concentrated solution, is worthy of trial in suitable cases, but of all the drugs ichthyol and iodine are probably the most reliable.

### **Erythema Solare.**

In this climate the condition is not very common, but every now and then an acute attack, even bullous in type, may be seen affecting the exposed parts of the skin. The worst cases in this country occur among alcoholic individuals, and they are readily cured by any soothing application, such as zinc paste or borocalamine lotion.

**Erythema Multiforme.**

Erythema multiforme is a disease often recurrent, occurring chiefly in the young adult, and noticeable mostly in spring and autumn. The parts where the eruption most commonly occurs are the forearms, hands, and face, but it may appear later on other parts of the body. Papules, varying in size, pink in colour, not scaly, and generally itchy, are the main features of the disease.



FIG. 12.—Erythema Multiforme.

A special variety is known as the iris type, and here the lesions are more regularly rounded, with often a darker dot in the centre and concentric rings, closely resembling the appearance of a target. Sometimes the disease assumes the bullous form, and there are also varieties where there is often an urticarial element.

The differential diagnosis from psoriasis, seborrhœa, dermatitis, and ringworm, to mention the most commonly confused diseases,

rests mainly on the recent history, distribution, and absence of scaling.

It is desirable to consider this subject from a broad point of view. There is no doubt that the ordinary epidemic fevers are accompanied with varieties of erythema due to their special toxins, and it is at least part of the truth to explain this as Nature's attempt to eliminate the poison by means of the skin, so that it is



FIG. 13.—Erythema Multiforme.

in the performance of this eliminative function that the eruption develops. Again the administration of certain drugs, such as iodides and bromides or copaiba, is sometimes followed by the production of erythema. Probably in these cases there is some impairment of the renal excretory power, and consequently a call for more elimination by the skin. Intestinal toxæmia will often be found to be responsible for the production of erythema, and the



rheumatic toxins are equally so. Microscopically, the lesions show dilatation of the blood vessels with an exudation of leucocytes and serum around them.

*Treatment.*—The treatment of the disease must vary with the cause, but the great majority of the cases yield readily to the internal administration of salicin or acetyl-salicylic acid. If these fail, then salol, soda, rhubarb, or grey powder, may be substituted. Aperients of the saline class are to be used when required, and occasionally ichthyol, internally, is of value. Recurrences in this and the following type are frequent, and it is advisable to warn the patient of this fact.

The iris type of the disease is more obstinate, and best results are obtained by the use of sulphate or salicylate of quinine. Locally, borocalamine lotion, or with  $2\frac{1}{2}$  per cent. of ichthyol added, frequently applied, will be found to be soothing. In obstinate cases, 10 per cent. of ichthyol in vaseline or in paste, should be applied on spreads of cotton or linen, and worn constantly.

The dietetic treatment in all types is important. An intelligently arranged light diet and plenty of fluids describes this briefly.

### **Erythema Nodosum.**

This form of the disease occurs in young adults, and twice more frequently in females than in males. The eruption appears in large nodules varying from half an inch to four inches in diameter, and may be elevated half an inch above the skin. The forearms and legs are the regions on which it is commonly noticed, and on the lower limbs the colour is often of a bluish crimson, as distinct from the crimson seen on the arms. Formerly it has been regarded as being of a rheumatic origin, but recent research is in favour of its being more probably a tuberculide. The pain may be more or less severe; the absence of scaling distinguishes

it from psoriasis and the seborrhœas, and the history enables us to distinguish it from syphilis. If at all severe, the patient must rest in bed, and in all cases, whatever the etiology, salicylates will be found to promote a cure within a week or two. Recovery will be hastened by ichthyol lotion or ichthyol ointment applied to the part. If very painful, the ordinary lead and opium lotion may be substituted for the above.

### **Purpura.**

This disease may be considered as a more severe inflammation of the skin, of the same type as urticaria and erythema, but in which actual hæmorrhages occur. These hæmorrhages appear as small, smooth, crimson, or purple spots, which do not disappear under pressure, and are generally accompanied by a slight systemic disturbance. Smaller lesions are noticed in connection with varicose veins and ulcers of the leg; more generalised cases show lesions of all sizes, sometimes even bullous, but all containing blood. Like extravasated blood anywhere in the skin, when in any quantity, it goes through the usual phase of red, blue, green, to greenish yellow.

As in the case of the preceding diseases, external irritants may cause local purpuric eruptions, and of these irritants the commonest are the bite of a flea and the heat of a fire; more commonly, however, the disease is produced by some toxine.

**PURPURA SIMPLEX.**—Is the mildest form of the eruption, and very small spots are noticed mostly on the legs, sometimes on the trunk, lasting for a week or two and gradually disappearing; sometimes this is a recurrent type.

**PURPURA RHEUMATICA.**—Is accompanied with rheumatic pains, generally some temperature, and is more severe than the above. In all probability, the rheumatic pains are associated with hæmorrhages into the joints.

**HENOCH'S PURPURA.**—Is a rare type observed principally in children, in which, while there are often erythematous and purpuric patches, the chief point is the internal complications. These latter consist of abdominal pain, with hæmorrhages from all the mucous membranes. Hæmatemesis, hæmorrhagic stools, and hæmaturia commonly occur.

The etiology is very uncertain, except where the rheumatic toxin is definitely responsible; otherwise, malarial poisons and drugs such as bromides, iodides, salicylates, and chloral, may from time to time be found to be the cause. The differential diagnosis is comparatively easy, if one first ascertains that we have blood to deal with. This point is easily confirmed by pressure with a microscopic slide, which will cause the disappearance of any erythema. The absence of thickening and scaling will eliminate the possibility of any of the granulomatous conditions. If fleas are suspected, one must judge by the distribution all over the body, by the limbs not being so markedly affected, and by the finding of the offending vermin; the lesion in this case shows a punctate red spot in the centre, with erythema around.

The treatment must vary with the cause. A light milk diet is generally ordered, and in an extensive case, especially when the lower limbs are affected, rest in bed is necessary. Salicylates are useful in rheumatic cases, and calcium chloride, and other calcium salts, are beneficial in other types; quinine is given in malarial subjects. Where there is any disturbance of the intestinal tract, special attention must be paid to it, and aperients and antiseptics given as the condition indicates. Most authorities still recommend iron and ergot, but the writer has still to be convinced of any benefit accruing from their use. In the variety called Henoch's purpura, adrenalin in 10 minim doses four-hourly, by oral or hypodermic administration, yields results not attained by any other means.

### Drug Eruptions.

Those produced by external application are well-known, and can be readily recognised by history and distribution. The internal administration of various drugs, however, is capable in certain cases of producing lesions which simulate many skin conditions. The diagnosis is sometimes obscure, but it is mostly a matter of taking a careful history. When an eruption appears suddenly and simultaneously over the body and face it suggests some central cause. If foods, fevers, and intestinal infections can be eliminated, then drugs should be suspected and carefully enquired for. One or two doses may be quite sufficient to produce an eruption, while in others, prolonged treatment must precede the attack. Confusion is apt to arise occasionally from the onset of the eruption after the drug is stopped.

Idiosyncrasy—that blessed word and cloak of ignorance is given as a reason. Renal inadequacy we know exists in some cases with the consequence that the skin has to excrete more and suffers from this over-strain.

May there not however be a congenital or acquired inadequacy of excretion on the part of the skin itself?

It is to be remembered that pharmacopoeal doses of drugs are average ones, and that the average may be far past the maximum dose for these special types.

Among the drugs causing skin eruptions iodides and bromides probably head the list in frequency, and their effects are curiously illustrative of their physiological action. Iodide is rapidly eliminated, bromide less so. Iodides produce an eruption very quickly, bromides more slowly and their effects are deeper and more lasting.

It is stated by Stelwagon that women and children are more susceptible.

Iodides most commonly produce a papular and pustular rash

on the back and face. On rarer occasions the effect may be so severe as to produce vesicles and hæmorrhages with œdema.

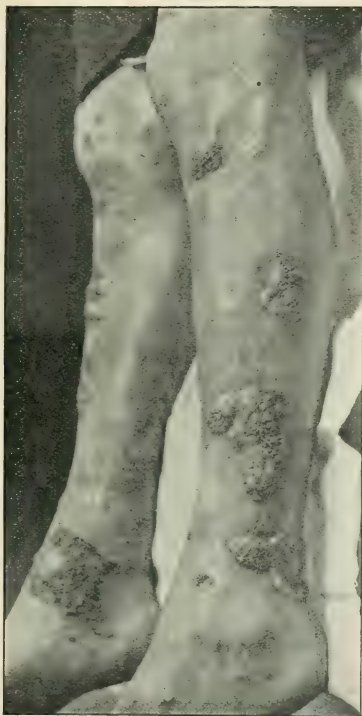


FIG. 14.—Bromide Eruption.

Bromides give rise to more acne-form lesions, but after prolonged administration may be followed by deep ulceration and

crusting, with resultant pigmentation. Syphilis and blastomycosis may be closely simulated by this last phase, which is mostly seen on the limbs.

Among other drugs are quinine, which produces erythematous lesions: copaiba, a diffuse erythema resembling scarlet fever: salicylates, urticaria and erythema; and the phenacetin group, a more localised erythema. Arsenic may produce an erythematous eruption, but its chief characteristic is the production of hyperkeratoses of the hands and feet, which may go on to the formation of epithelioma after prolonged administration.

Naturally the treatment consists first in the removal of the disturbing drug. Local treatment is aptly defined by Stelwagon who states that it should be similar to that used for the skin eruption which is mostly simulated.

For instance bromides and iodides yield to the lotions used in acne. One special point may be mentioned, and that is that iodides help to remove the last traces of a chronic bromide eruption.

## CHAPTER VII.

### BULLOUS ERUPTIONS OF THE SKIN.

- |  |                              |
|--|------------------------------|
| 1. Blister from a burn.                | 5 Hydroa Vacciniforme.       |
| 2. Erythema Bullosum<br>and Urticaria. | 6. Epidermolysis Bullosa.    |
| 3. Impetigo Bullosum.                  | 7. Dermatitis Herpetiformis. |
| 4. Pompholyx.                          | 8. Pemphigus.                |
|  | 9. Herpes.                   |

ALL these are the result of external or internal irritants, the latter acting either through the blood or the nervous system. Some are therefore purely local, others are local manifestations of a general disease.

#### Pompholyx or Dysidrosis.

This condition is of an acute inflammatory character, and limited to the hands and feet, more commonly affecting the palmar and plantar aspects, and is generally symmetrical. The bullæ vary in size from a minute grain up to an inch or more in diameter. Where the condition affects the hands (Cheiropompholyx), there is often some burning pain, and thereafter an outburst of some small sago-grain-coloured lesions deeply seated, and occurring most commonly on the sides of the fingers. While commonly arising *de novo* the disease may also be a complication of a general dermatitis affecting the hands. Many people suffer from the disease more or less, and the intelligent individual can often trace its onset to some slight debility or external irritant; for instance, medical men often have it as a result of excessive use of antiseptic



lotions: lysol in some and perchloride in others, being frequently the offending antiseptics. Furthermore, a history will often be obtained that recurrent attacks have commenced early in adult life, and it is not uncommon to find that they disappear when full maturity is reached. The name dysidrosis implies difficulty in perspiring, and the lesions are believed to be due to a blockage of the sweat ducts, with the result that, the secretion being continued, there is a dilatation of the glands and consequent production of the vesicle. Whether this is the case or not, undoubtedly many sufferers show definite hyperidrosis of the palm and soles. Some observers class it as a neurosis, others regard it as a local infection.

*Treatment.*—General tonics applicable to the individual case should be administered, and relief of constipation, if present, is absolutely necessary. Locally, the ordinary mild case yields to the following recipe:—

R	Sulphur. Præcipit. . . . .	
	Acid Salicylici āā . . . . .	2½ grains.
	Pulv. Amyli . . . . .	
	Zinci Oxidi . . . . .	
	Lanolini . . . . .	
	Vaselini āā . . . . .	½ oz.

rubbed in twice daily, and on spreads of cotton cloth at night. The hyperidrosis will be alleviated by sponging once a day with—

R	Hydrarg. Perchlor. . . . .	1 in 800.
	Spt. Vini . . . . .	4 oz.

A dusting powder is also of great value, 10 per cent. of boric acid in talc being a very useful formula. As affecting the feet, the subject is of great interest from a military standpoint, and here, properly-fitting boots, and the use of socks which do not wrinkle up and are not too irritating, are the first points to be

attended to. Thereafter, washing the feet daily, and soaking in a weak solution of Condy's fluid, will prevent infection and harden the skin. When a blister forms, it should be promptly treated with the ammoniated mercury paste, and rest should be insisted on till the skin has become normal. It is generally the youthful campaigner who suffers most, and as the vitality of the recruit increases owing to military exercise, the irritation is much less liable to occur. The frequent changing of socks, and the use of dusting powder every night, is a valuable routine method. In conditions affecting either the hands or the feet, when the acute stage is over, painting with 5 to 15 grains solution of silver



FIG. 15.—Herpes Simplex.

nitrate in 1 oz. water about twice weekly, will be found to harden the skin in a satisfactory manner. Argyrol paste, 10 minims to the ounce, is also to be recommended, and does not blacken the skin like the above.

### Herpes

The two varieties of this disease, herpes zoster and herpes simplex, are quite distinct, the latter being purely a local condition.

HERPES SIMPLEX occurs as a recurrent vesicular eruption, most commonly about the face or the genitals. Its appearance in pneumonia on the lips is well-known, and clinicians still teach that

the more severe the local herpes, the better the prognosis for the graver systemic condition. It is generally held that the eruption on the face is due to some local nasal or dental trouble, and the outbreak is determined by lowering of the general vitality; but the writer has never seen it cured by attention to either of these. The genital condition is the result of immoral living. In both sites it differs from herpes zoster by the fact that it may be bilateral. A simple soothing paste is all that is required, and the



FIG. 16.—Herpes Zoster.

condition subsides within a week or so. Some maintain that recurrences may be at least made less frequent by painting with silver nitrate solution.

HERPES ZOSTER is a much more severe condition, called popularly "Shingles," from the Latin "Cingulum"—a girdle. It is an acute, inflammatory disease occurring most commonly on the chest, but also quite frequently elsewhere, and always along the line of a nerve or nerves. Firstly, the patient generally complains of pain more or less severe, lasting for one, two, or three days, and

then red papules appear in groups, and become rapidly vesicular. These groups will be noticed to occur along the cutaneous branches; for instance, on the chest they occur mostly on the posterior primary, the axillary, and the sternal region. The pain still continues in most cases, and the neighbouring lymphatic glands will be found to be enlarged. New vesicles and new patches may appear for a day or two, and the disease reaches its full development in five to ten days. Retrogression then occurs, except in the gangrenous type, where sloughing sets in, and the patient suffers from feverishness and much constitutional disturbance.

Very exceptionally we find the condition to be bilateral, and then it is generally a complication of some spinal disease. Both sexes and all ages are affected, with the exception that it is very rare in infantile life. It is undoubtedly worse in damp changeable weather, and spring and autumn are favourite times.

The pathology of the disease is a descending acute neuritis, probably arising in the posterior root ganglia, where a hemorrhagic inflammation occurs. Undoubtedly, irritation of the nerves from such poisons as malaria or arsenic is responsible in some cases, while there is probably some truth in the theory that has been propounded in America, that we have in general to deal with one of the epidemic infectious diseases. It is difficult to explain the simultaneous attack on various members in a community, and the fact that the disease seems to confer freedom from subsequent attacks, on any other theory. The structure of the lesions externally closely resembles that of impetigo contagiosa, but they show an areola of redness at the base, and microscopically the lesions are found to develop more deeply in the lower part of the stratum Malpighii. In the early stage the mistake is often made of diagnosing pleurisy or rheumatism, and ordering the application of a mustard blister or embrocation to relieve the pain. Many physicians have made this blunder, and many wives have been blamed by their husbands for producing the disease by the too

vigorous use of a favourite embrocation. There need be no difficulty in the diagnosis of a fully-developed case, where the characteristic lesions are seen along the lines of nerves.

*Treatment.*—Quinine and strychnine are generally recommended, but phenazonum, or even heroin or morphia, may have to be administered for the pain. Locally, the ammoniated mercury and zinc paste is generally useful, or what the writer often prefers, viz. simple dusting powder, with a pad of cotton wool, or gamgee tissue, renewed at intervals. In the region of the eye, especial care has to be taken as a punctate keratitis and subsequent iritis, septic in character, developing even into panophthalmitis, may occur. A very close watch should be kept on these cases, as even an adherent iris will be a matter of reproach subsequently. Frequent bathing of the eye, with mild antiseptics, and the use of atropin on the slightest indication of adhesion is necessary.

The post-herpetic pain left in any of these regions is often very troublesome, and occurs amongst two classes of patients—the old and debilitated, and the alcoholic. Electricity, in the form of galvanism or high frequency, the latter being preferred, should be instituted soon. Blistering over the root ganglia, or using ethyl chloride freezing solution over these areas, will also be found to give relief. Opiates may again have to be used at this stage, and a recuperative holiday is to be insisted on. In spite of this, the pain may last, with intermissions, for a year.

### **Dermatitis Herpetiformis or Duhring's Disease.**

This disease is fairly common, affects people of any age, and is noteworthy by the presence of papules, vesicles, and even bullæ, with subsequent production of small scars and pigmentation. The lesions are generally stated to occur in groups, but this is not always quite apparent. The occurrence of the eruptions is often preceded by a slight malaise or disordered digestion, and there are

other indications of impaired excretion, such as the presence of eosinophilia in the blood, and indican in the urine, which also may show a diminished amount of urea. Itching is common



FIG. 17.—Dermatitis Herpetiformis (leg of a child).

except in the case of children, and it may be so severe as to make the patient suicidal. The commonest sites are over the scapulæ, and the sacral region. In children one has noticed it very markedly affecting the limbs. The trunk, as a whole, is affected

in cases at all severe, and often the mucous membrane of the mouth is involved. The etiology is somewhat obscure, but all recent research points to it being more a toxic condition. In pregnancy it may occur, and is then called *hydrops gravidarum*.

Like that of herpes zoster, the lesion commences deeply in the epidermis. A well-marked case is easily distinguished, but the early case requires great care, and there are many points in the differential diagnosis which one may lay stress on. Firstly, it is a chronic disease; secondly, the patient is otherwise in fairly good health; thirdly, the herpetiform grouping of the lesions; fourthly, the itching, which is not so pronounced in pemphigus or in erythema; fifthly, the eosinophilia, indicanuria, and diminution of the urea; sixthly, the bullæ are generally larger in pemphigus; seventhly, the pigmentation, which is often in the form of a small circle of pigment round a minute scar, is fairly characteristic.

Chickenpox has febrile symptoms, and affects the face and scalp more than dermatitis herpetiformis. The history of onset and the occurrence of other cases is also important.

Impetigo contagiosa of the bullous type, is more seen on the face and neck, is not so itchy, has no eosinophilia and a short history.

Bullous erythema may give rise to much difficulty. It is not so itchy, shows no eosinophilia and no pigmentation. Some cases are indistinguishable or pass from the one disease to the other.

The prognosis is quite good if the conditions external and internal can be rectified, although recurrences may be noted. Pemphigus foliaceus may be a sequel.

*Treatment.*—Working on the above theory, the writer finds it advisable to attend strictly to diet and the elimination of the purins. A simple saline should be given in the morning, and large quantities of water drunk; a vegetable and farinaceous diet is ordered, and intestinal antiseptics, such as salol or even hydrarg.



cum creta are prescribed. Norman Walker has gone further, and ordered simply water to be drunk for some weeks, the patient being meanwhile confined to bed, and the results were admirable. This last plan is, however, not readily acceded to by the patient, and therefore can only be used in very severe cases.

Arsenic, internally, should be given in gradually increasing doses,

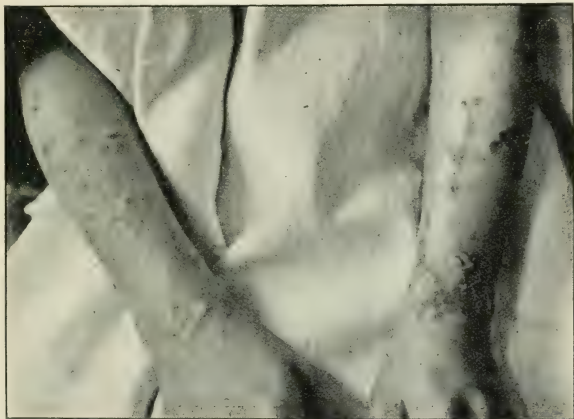


FIG. 18.—Dermatitis Herpetiformis (on the arms).

preferably the liq. arsenicalis, commencing with two and increasing up to even ten minims thrice daily. After three weeks' treatment this should be stopped, and may be resumed a fortnight later. In this connection it is advisable strongly to impress the patient with the fact that arsenic is cumulative, and that he or she should make it a rule not to take it for longer than three weeks without an interval. With such reservations, there is no doubt that arsenic is the best drug we have at our disposal. Ichthyol, belladonna,

and phenacetin all seem to give occasional relief, but they are unreliable.

External applications of 1 per cent. ammoniated mercury ointment or 2 per cent. ichthyol paste are best. Daily baths of Condy's fluid (weak) or boracic acid are soothing and prevent the spread of the septic infection.

It formerly used to be considered probable that worry was to a large extent responsible for the disease, and in so far as worry may impair digestion, the belief was probably founded on fact. This point should not be ignored, and accordingly good results are often obtained by complete change of surroundings and a good holiday.

### **Epidermolysis Bullosa.**

EPIDERMOLYSIS BULLOSA is a rare infection, generally hereditary, commencing at infancy, in which bullæ appear after the slightest traumatism. Redness, then a wheal, and finally the bullæ, appear in about twenty minutes, even after a severe rubbing of the part. The skin in these patients will be found to be very elastic, and there will often be observed dystrophy of the nails and epidermic cysts.

Treatment is most unsatisfactory. Ergot, X-rays, or general electric treatment, is commonly recommended.

### **Hydroa Vacciniforme.**

This is a vesicular eruption, which recurs persistently every year from April to September, when the actinic rays of the sun have most power. The disease begins in early life, almost always attacks the male sex, and disappears in early adult life. The usual sites are the nose, the cheeks, and the ears. The vesicles vary in size and often become umbilicated, will last for a week or two, crust over, and eventually heal, leaving a slight red scar

which becomes white. The disease is closely allied to summer prurigo, which, however, affects the hands as well, and in which the eruption is more papular and very itchy. The treatment consists in the use of a soothing lotion, and the protection of the skin from the actinic rays of the sun by the use of brown veils, or a lotion of paste made brown by the addition of walnut juice or ichthyol.

### **Chronic Pemphigus.**

CHRONIC PEMPHIGUS is a disease often quoted, but exceedingly rare, so much so that the rule should be—"when in doubt, don't diagnose Pemphigus." Essentially it is a disease of comparatively long duration, characterised by the presence of large bullæ, which are scattered, not in groups, and arise from a skin not inflamed, and therefore have no surrounding areola. The disease runs a chronic course with exacerbations, and the patient is obviously ill. Eosinophilia in the blood and other indications of toxæmia are generally observed. The lesions may occur anywhere, and are often seen on the mucous membrane of the mouth and lips. The course is slow, and generally ends fatally.

The treatment consists in the administration of arsenic and the use of protecting ointments or pastes over the affected areas.

### **Acute Pemphigus.**

ACUTE PEMPHIGUS has a limited course of weeks or months, ending in recovery or death. There are two main types of the disease, both of which are probably due to a streptococcal infection; firstly, the PEMPHIGUS NEONATORUM, originating generally as an infection of the stump of the foetal cord, and secondly, BUTCHER'S PEMPHIGUS, in which one can generally obtain a history of some small cut becoming infected. Prolonged immersion in baths containing boracic acid or permanganate of potash is the best

treatment if it can be carried out satisfactorily, and in the intervals the weak ammoniated mercury paste should be applied over the lesions. The germ is to be sought for, and an autogenous vaccine given; failing that, anti-streptococcic vaccines or serum should be administered. The writer has seen cases carefully examined by expert bacteriologists without the causative organism



FIG. 19.—Acute Pemphigus.

being found, and in his experience the prognosis is generally very grave.

### **Pemphigus Foliaceus.**

It has been the writer's fortune to see a good number of these cases, in which there is often a history of some burn, and in others a history of preceding dermatitis herpetiformis. The bullæ, mostly small, occur anywhere, and rupture in a few hours, with subsequent exfoliation of the skin. The whole surface of the

body is generally involved, and the reddened, swollen, itchy, and scaly skin on which bullæ regularly appear and become septic and odorous makes the patient a very repulsive object. No organism has been definitely found either in the blood or on the skin, and no treatment has been found to produce a cure. Undoubtedly, the formula formerly recommended by the late Allan Jamieson, containing 10 grains of bismuth oxychloride in the ounce of vaseline, seems to give best results. Vaccines made from the skin at times appear to alleviate the condition, but otherwise the treatment must be general. The danger in this, as in all widespread skin conditions, is the lowering of the blood pressure from the dilatation of the cutaneous blood vessels, and the liability to cardiac failure and hypostatic congestion of the lungs; digitalis, therefore, has often to be used.

### **Pemphigus Vegetans.**

This disease occurs mainly in two regions—on the axillæ and the pubes, and is characterised by a greater thickening of the skin, than is seen in the rest of the pemphigus group and the formation of crusts and vesicles. The whole affected area is markedly œdematous, and covered with offensive secretion. The cases very rarely improve, and on the other hand are generally fatal. Iodine, in one form or another, seems to have given the best results as a local application.

## CHAPTER VIII.

### DERMATITIS.

ALTHOUGH it may be said that new dermatitis is but old eczema "writ large," still it is a much more definite term to use. Just as dyspepsia has been divided up into acidosis and atonic dyspepsia, etc., so it is better to qualify many eruptions, formerly under one group, according to their etiology, although we may keep, if desired, the old word eczema for an eruption exactly similar in appearance, which is probably due to some nerve causation. Having said so much, we may define the condition, call it what one likes, as an acute, subacute, or chronic inflammation of the skin, in which erythema, papules, vesicles, and pustules may appear. The whole skin may become thickened, and this occurs to a great extent in the chronic stages. Oozing, moisture, crusting, and superimposed impetigo, are common, and itching may be more or less intense.

In a disease so prevalent it is easy to find heredity, but no definite proof can be given that it is a factor in the causation. It is more common amongst males than females; it is most common in the early years of life, less so at maturity, and towards old age it is again of frequent occurrence. Interesting in this connection is the fact that seborrhoea is worst at these periods, and as has been mentioned, it is often the basis of a dermatitis.

General debility, whether due to diseases such as gout or rheumatism, or to impaired action of the kidneys and the bowels, is probably an important factor, and in widespread cases its

importance is very manifest. Some writers, especially the French school, go so far as to treat a localised dermatitis of the arm by a system of dietetics, and while most will consider that this is not quite reasonable, yet, as an organ of elimination, the skin will have more work to do and be liable to break down if the action of other eliminative organs is impaired.

Neurotic eczema or dermatitis is spoken of, and many reliable instances have been recorded (with which the writer's experience agrees), where the nerve factor is probably the chief cause. Great strain, worry, or anxiety, is the history generally obtained in these cases. The patches in this type are generally symmetrical, occur mostly on the limbs, may be nummular and moist or show hyperkeratosis.

Of vastly greater importance are the external irritants, and this part of the problem is full of scientific and economic interest. Why several persons should be exposed to the same class of work, and only one suffer from cutaneous disturbance, why a man may work with certain plants, known to be irritating to others, and have no bad effects, while some more innocuous plant will cause a dermatitis, why a man may work for years at a trade, and eventually develop a trade dermatitis, are points which urgently demand elucidation. For many years the writer has compiled statistics on these points. Briefly put, he has come to the following conclusions:—(1) That the individuals most prone to dermatitis venenata (dermatitis due to external irritants) are those who suffer from seborrhœa, hyperidrosis, xeroderma, or some well-defined skin disease; (2) that a recent illness, by lowering the vitality, and hence affecting the circulation of the skin, and possibly leading to hyperidrosis, often precedes an outbreak; (3) that, especially in the seborrheic patients, puberty and the climacteric are periods of life in which there is a predisposition to attack.

It is impossible to give a complete list of the external irritants which may produce the eruption, but the following are given for



illustration:—Soaps,<sup>1</sup> especially medicated or strongly alkaline; dyes; chemicals, such as morphia, phenyl-hydrazin, carbolic acid, formalin, photographic chemicals, picric acid; sugar; flour; polishing materials; printing materials; various oils; acids; certain woods; certain varieties of plants; and dust generally in connection with trade. The most important point with regard to all these external irritants is the fact that they only affect the parts exposed, in the first instance. Gardeners, bakers, and



FIG. 20.—Occupation Dermatitis.

morphia workers are often seen, therefore, with an eruption simultaneously breaking out on the hands and face; washer-women and french polishers generally show the eruption on the hands alone; miners may only show an eruption about the thighs.

<sup>1</sup> In an analytical research reported in the *Edinburgh Medical Journal*, June 1912, the author pointed out the gravity of this as an economic factor. Clothes-washing soaps especially are made from cotton seed, palm or rancid oils and require more alkali to saponify them. The oils themselves probably, and certainly the increase of alkali, has a most deleterious effect on the skin. The addition of antiseptics, while being valueless, adds to the irritation.

This distribution is a useful point in differential diagnosis, but it must be remembered that subsequently the dermatitis may spread to any or all parts of the body.

The subjective symptoms are at times very severe, and almost always troublesome. Itching, burning or stinging pain, is generally complained of; the first is generally the most common, and the scratching naturally indulged in may intensify the condition. According to the phase of the disease, the character of the eruption may vary. Redness is generally the first symptom, with more or less scaling, the skin becoming thickened; then, exfoliation of the upper layers occurs with exudation of serum. The staphylococci indigenous to the skin very soon multiply, pus is formed, and crusting ensues. The patches vary in size, sometimes being very large, but mostly about the size of a half crown or five shilling piece.

For convenience it may be advisable to consider the various forms:—

(1) Erythematous dermatitis.—This is most commonly observed on the face in middle-aged and old people. Redness, slight thickening, and a branny scaliness are the main features, but later the skin may become densely infiltrated and oozing areas appear. This variety is very liable to relapse. It often has a seborrheic basis, and may follow an old erysipelas. Chemical workers, maltsters, gardeners, engine drivers, are those most frequently affected, and amongst its common causes are chemical irritants, fumes, heat and cold, and the volatile oils from plants.

(2) Intertrigo.—This, which is generally a moist form, occurs most frequently on the femoral, natal, scrotal, mammary, and interdigital folds. It is associated with exudation from the sweat glands. Stout people, babies, and people who perspire freely suffer most.

(3) Papular dermatitis.—This is seen on the flexor aspects of

the limbs, and on the trunk, and may become either vesicular or scaly. Most commonly, it is a secondary infection from an eruption occurring on other parts. If directly due to staphylococci, it may become pustular.

(4) Vesicular dermatitis may occur anywhere, and is generally a later phase of the erythematous and papular varieties, although it may occur *primarily* as a result of acute irritation.

(5) Hyperkeratotic dermatitis is to be noticed on the hands and feet, is very often associated with hyperidrosis, and is marked by a thickening of the horny layer of the skin. Cracking and fissuring of this affected layer readily takes place owing to the loss of pliability. The deep fissures thereafter become infected with staphylococci—a condition formerly called *eczema rimosum*.

The prognosis of any of these varieties varies as to whether or not we can find and remove the cause, the age and general health of the patient, and the chronicity of the disease.

*Differential Diagnosis.*—Psoriasis may be excluded by the distribution of the lesions, and by the past and often recurrent history. Ringworm may be differentiated by its comparatively limited area of attack, and microscopically by the presence of the fungus. Seborrhœa is sometimes a simulating condition, but as it often underlies a dermatitis the mistake is not a grave one. In conclusion it must be reiterated that the distribution and the history, or absence of history of irritants, are the cardinal points to be considered.

*Treatment.*—The first point in this connection must be a thorough enquiry into the possibilities of a local irritation, and the removal of such. The patient's general health must be attended to, and, if of the neurotic type, removal from worrying surroundings is indispensable. If the area is at all extensive, or if the lower limbs are much involved, rest in bed is to be recommended. Internal remedies, such as quinine, are valuable

in nummular patches, and intestinal antiseptics, such as salol and beta-naphthol, often prove useful. The writer is convinced that a careful examination for, and treatment of, any condition such as anæmia, dyspepsia, etc., should never be neglected if success is to be attained. Again and again in hospitals it has been noted that cases do not progress until these points have been attended to.

*Local Treatment.*—Crusts must be removed by the usual methods, and it is difficult in this connection to over-value the effects of the boracic starch poultice. It not only removes the crusts by softening them down, but it reduces the inflammation underneath, and its use should be insisted on till the skin is quite smooth and free from scales. When this desirable end is attained, the use of 5 grains to the ounce of hydrarg. ammoniatum in zinc paste, thickly spread on strips of cotton and applied twice daily, will, by its astringent and soothing action, often complete the cure. This paste is rather thick, and the use of olive oil is recommended to remove it before repeating the application.

If the eruption is not moist, the paste may be made thinner by putting half the quantity of starch and zinc oxide in it. It will generally be found that the parts still remain slightly red and thickened, and the zinc paste, with 2 to 10 grains of salicylic acid in the ounce may then be substituted. A useful remedy at this stage also is Hebra's ointment, which consists of equal parts of emplastrum plumbi and vaseline: on the other hand, if the moisture should continue, painting with silver nitrate solution, from 5 to 15 grains to the ounce, will often be efficacious. If the area is large, lotions, such as the boro-calamine, sulpho-calamine, or lead and tar, may be applied, each of which can be painted on five or six times a day. In the erythematous variety, ichthyol may be usefully added to either of the calamine lotions.

If these lotions are found to be too drying, then the watery basis in them may be substituted by equal parts of lime water and olive or almond oil.

Coming to the chronic stages, one may divide the treatment according to whether the true skin or the epidermis is most affected. In the hyperkeratotic variety, where the epidermis is thickened, the use of salicylic ointment or plasters is more correct, because salicylic acid has a specific effect as a solvent for epithelium. The application must be persevered in until all the thickening is removed, the fissures being meanwhile painted periodically with silver nitrate solution; where the thickening is deeper, tar in some of its forms is more suitable. Crude liquid gas tar may be painted on at intervals varying from three to eight days, watching its effect. At first, longer intervals may have to be given, as the skin is more sensitive and reacts to the application, but later it can be used more frequently, unless, as sometimes happens, furunculosis supervenes, and for this reason also it may have to be stopped. Ten per cent. of tar dissolved in benzole and acetone or tetra-chloride of carbon, are other useful preparations which may be used for periods of three or four days, then stopped. Pyrogallie acid or chrysarobin, from 1 to 5 per cent. strength in ointment or paste is sometimes found to be efficacious. An older plan, which consists in the rubbing on of pure liq. potassæ by means of cotton wool wound round a glass rod, is very valuable in the treatment of long-standing localised patches. This drug produces a severe reaction, with an outflow of serum after a few minutes; the serum should be thereafter washed off with warm water, and a soothing paste immediately applied. The use of jellies as protective agents, chiefly on the lower limbs where there is not much thickening left, often achieves a cure when other remedies fail. As gelatine dissolves in water, the jellies cannot be used when the part is at all moist. A common prescription is:—

Gelatine . . . . .	15 parts.
Zinc Oxide . . . . .	10 do.
Glycerine . . . . .	30 do.
Water . . . . .	40 do.
Ichthyol . . . . .	2 to 5 do.

This is generally softened by immersing the tin containing it in a pot of boiling water. The softened jelly is ascertained to be at the right temperature for applying to the normal skin, and then painted on uniformly by means of a brush. In a few minutes this dries, and the outer covering may be strengthened by the use of cotton wool loosely flapped on. Especially in varicose dermatitis this remedy is to be recommended. Very stubborn patches of dermatitis may be treated with X-rays. If the disease is the result of occupation, the patient must in no wise return to work until all the thickening and redness have disappeared. The best means for detecting this is by nipping up the suspected skin and comparing its feeling with that of the normal surrounding skin. It may be necessary to recommend a change of occupation if the case is very stubborn and relapses.

### **Dermatitis Artefacta.**

This condition is fairly common, and while seen in adults of either sex it is more common amongst neurotic, and especially neurasthenic females. If there is one condition in which an accurate grasp of the mentality of the patient and a detective's keen observation powers are required, it is in this disease. It occurs on the parts which the patient can easily reach, therefore the most common sites are the hands, forearms, and front of the trunk. The lesions are best described as "unnatural" and appear commonly in the form of linear excoriations or sloughing, unhealthy, irregularly-shaped ulcers, angularity being a special feature. The production of these may be by purely mechanical methods, or various forms

of corrosive fluids such as carbolic or nitric acid may be used. In one case of a ringed eruption round the upper arm, moist string or tight rubber bands seemed to be the instrument of choice. If the history can be obtained from a friend it will often throw helpful light on the diagnosis. The writer has seen cases occurring in young women who, apparently, had no other reason than the desire to get sympathy or a rest from work, and others who wanted to take full advantage of the Workmen's Compensation



FIG. 21.—Dermatitis Artefacta.

Act. The other signs of hysteria such as the anæsthetic palate will commonly be found to be present.

Another type, allied to this, may be defined as the neurasthenic scalp, which generally commences as a mild seborrhœa of the head. The itching complained of by the patient is out of all proportion to the disease. The later phase is the tearing and breaking of the hairs in parts of the scalp with, in certain areas, even the production of excoriations. It may be a coincidence, but several patients within the last year or two have come under



observation complaining that they felt the germs jumping out of the follicles and moving about the surface of the scalp. The patient generally is very intractable and requires firm handling, and at least one individual is known to have died subsequently in an asylum.

Enough has been said to give clues for differential diagnosis in these cases, and also indications for treatment. It is often necessary to place these patients in hospital or a nursing home, and if then they can be detected in the act of, or in possession of materials for, producing the eruptions, an opportunity will be given for a good straight talk. Following this the administration of nerve tonics and the general treatment of hysteria will have to be adopted.

Local treatment should be stopped early as the more that is done the more the patient thinks about the condition of the scalp. Treat the neurosis therefore and the scalp will look after itself.

## CHAPTER IX.

### DISEASES DUE TO LIGHT, PRURIGIENOUS ERUPTIONS AND LICHEN PLANUS.

IN the normal skin there is a ferment, which, when supplied with pabulum, is capable of producing pigment as a protection from the effects of the chemical rays. In the darker races the ferment is in such large quantity that a deep pigment is produced, and as the sunlight increases the power of this ferment, the skin becomes darker in hot countries. This is a very interesting illustration of a providential arrangement, whereby the liability to irritation is diminished by increased power of pigment production. The "horny hand of toil" is, in another way, a similar adaptation in which the superficial layers of the skin become thickened so as to resist irritation. In albinos, this ferment is entirely absent. In leucoderma, there is a deficiency of ferment in the patches affected, and, as the condition is at its worst in summer time, the writer is inclined to class it among the light diseases. *Hydroa vacciniforme*, described elsewhere, is another condition due probably to some change in the skin, making it susceptible to actinic rays.

Amongst apparently healthy individuals one finds all stages, from complete tolerance of, to a great sensitiveness to, strong sunlight. It follows that, in the treatment of these conditions, the remedy should be the application of a pigment approaching the red end of the spectrum. Walnut juice or ichthyol, or naturalised umber, is commonly employed in ointments or paints. It may be necessary for the patient also to wear a brown veil to

protect the face, and to keep the hands covered when out of doors.

Another variety is seen in what is called light prurigo, where there is itching more or less severe, with the formation of papules, a certain amount of redness, and if it becomes chronic, a more or less thickened condition of the skin. These lesions appear on the face and hands, and also on parts of the forearms. The sufferer from this distressing and recurrent disease lives in dread of the advent of spring and summer. Empirically, the writer has found that calcium salts produce some benefit in these conditions.

### **Xeroderma Pigmentosum.**

The most serious of the diseases arising in this connection is that called xeroderma pigmentosum. This malignant affection commences very early in life, in the form of pigmented spots appearing on the face and the backs of the hands most commonly. Accompanying it is a certain amount of photophobia. As the disease advances, telangiectases, atrophic spots, and subsequently epitheliomata, appear. Like all light diseases, the condition is worst in the summer time, and is often hereditary. Unless the case is energetically treated in the early years, the affected individual dies very young. The treatment consists in protection from the light, and destruction of any epitheliomatous lesions as they appear by energetic freezing with CO<sub>2</sub> snow. In cases, under Dr Norman Walker's charge, X-rays produced a palliative effect, a result which savours of homeopathy, as the after-effects of frequent exposure to X-rays are almost identical in appearance to those of xeroderma pigmentosum.

### **Prurigo.**

As the name implies, this is an itching condition, in which the main feature is the presence of small reddish papules, occurring

on a thickened skin in the case of a badly-nourished patient. Very generally there are numerous scratch lesions on the part, and, probably, secondary to this, the adjacent glands are enlarged, although this is always considered a feature of the disease. The regions most commonly affected are the lower limbs, but it may spread to the rest of the body. The writer has some difficulty in classifying it as a primary disease, and he is much inclined to consider it a later manifestation following several conditions arising in childhood, the most common of these being urticaria papulosa, seborrhœa, and mild xeroderma. Essentially a chronic disease, it is commonly stated to be congenital, and the subsequent itching is often the cause of an impetigo supervening.

When fully developed, the skin loses its elasticity, and when picked up between the thumb and finger feels markedly thickened. Many areas may show depigmentation, and others show an increased pigmentation, while interspersed all over there are the typical hard nodules, generally about the size of a pea. Whatever its origin, there is an atrophy and fibrosis of the sebaceous and sudoriparous glands. As a result of this, there is impaired elimination from the skin, and concurrently the patient is generally emaciated and out of health. Not uncommonly he or she often also suffers from asthma. The clinical picture is so definite that there need be no difficulty, along with the chronic history, in making a correct diagnosis.

*Treatment.*—This, to be of any value, must be prolonged. The first point is to counteract the surface infection. This can be done best by the use of 5 grains to the ounce of ammoniated mercury in ointment or paste, used very freely and rubbed in at least three times a day. A course of staphylococcal vaccines, more particularly autogenous vaccines, will at the same time prove of great value.  $2\frac{1}{2}$  grains of sulphur and salicylic acid in the ounce of zinc paste may now be substituted. Crude tar, used subsequently with a watchful eye for the production of pustulation,

will remove the thickening better than anything else. The general health of the patient must, during this period, be strictly attended to; this has always been an important point in the writer's estimation, and a recent experience has impressed it more.

A case, lasting from infancy, was under the writer's care for four years, with very good results. The skin, however, was still sensitive, although not thickened. This being so, the writer granted a certificate of exemption from the army, which, however, the patient would not use and joined the colours. Three years later he was seen in hospital, wounded, with his general health immensely improved, and, still more interesting, his skin condition practically well, this occurring even with the rough experiences of a "Tommy" in the campaigns in Flanders and France. In fairness, however, it should be stated that ointments had been used as often as feasible during these three years. The important point, however, is the effect of open-air life in improving the general health of such a patient.

### **Lichenification.**

This condition is so very common as a sequel to other skin conditions, that the writer feels impelled to follow Sir Malcolm Morris's example and give it a special place. It is most commonly the sequel of a seborrhœa, but may occur following any other form of dermatitis. The most common sites are the folds of the skin, and of these the bend of the elbow, the popliteal space, and the region of the ligamentum nuchæ are the commonest. (*Pruritus ani*, and *vulvæ*, are taken separately.) The appearance of the eruption is that of a localised prurigo, with the thickened fibrous skin, general pallor in the centre of the patch, and increased pigmentation round the edges. The itching complained of is often very severe, and is probably due to the involvement of the nerve endings in the fibrosis.

*Treatment.*—Crude tar is probably the best application here, but the itching is often relieved by one or two doses of X-rays. As the itching and consequent scratching are in great part responsible for the continuance and aggravation of the disease, this line of treatment is very important.

If these fail then trial should be made of zinc paste containing 1 to 3 per cent. of resorcin.

### **Pruritus Ani et Vulvæ.**

These two conditions are exceedingly common in a mild form, although little notice is taken of them, but when fully developed they may make the afflicted patient's life miserable. In one sense, they may be regarded as allied to seborrhœa, because they are associated with inflammation of the sweat and sebaceous glands which are so large in these regions. In another sense, they are complications of local conditions. In the first, hæmorrhoids or fissures invariably accompany it; in the second, some uterine or vaginal affection is co-existent. The first signs are generally redness, moisture, and itching, the itching being generally worst at night, and the consequent scratching is followed by abrasions of the skin, which readily become infected with the local discharges and so render the condition worse. When fully developed, the skin is leathery, rugose, marked with scorïæ, pale in the centre, and pigmented round about.

*Treatment.*—Any uterine or vaginal conditions will require treatment along the lines familiar to the gynecologist. In pruritus vulvæ, any fissures should be touched periodically with pure carbolic acid. The varicosity of the rectum should be treated by aperients, and the injection of a dram of liq. extract of hamamelidis every night. If the hæmorrhoids are large, operative treatment may be necessary, but if not, the injection of a minim or two of carbolic acid may be sufficient to induce atrophy in the

mass. Thorough cleanliness by sponging after defæcation is an absolute necessity, and the introduction at night of suppositories, containing chrysarobin, 1 grain in each, or iodex, are useful adjuncts. It is always to be remembered that glycosuria is a fertile source of pruritus, and a careful search for, and treatment of this, if present, must be carried out.

Whatever the cause may be the scratching must be stopped at any cost, and therefore anti-pruritics must be at once employed. The best of these is silver nitrate solution, and this can be used in all strengths, commencing with say 5 grains to the ounce, and increasing up to a saturated solution if necessary. The painting causes severe burning, and too much destruction of the surface epithelium must be avoided. Resorcin is almost equally valuable, and in certain cases an ointment containing 10 or 20 grains to the ounce will succeed where the silver solution fails. Concurrently with these remedies should be employed a paste containing  $2\frac{1}{2}$  to 10 grains of salicylic acid, and it is advisable that this be spread on linen or cotton and kept in contact with the part. As soon as the fissures heal up, a tar application becomes valuable, either in the form of the crude tar or in solution. Sometimes the writer has found it profitable to add 1 or 2 drams of liq. carbonis detergens to the ounce of salicylic paste. More successful than any of these, in the writer's experience, is X-rays, which, given in pastille doses, will not only allay the itching, but reduce the thickening. These are the main methods of treatment, but the proper employment of each remedy is a question of judgment and experience. Autogenous vaccines have been warmly recommended by American authors, and the writer has occasionally found them to be beneficial.

### **Lichen Planus.**

This is an inflammatory disease, which appears on the skin in the form of itching papules, varying in size from a pin-head to a



small pea, glistening on the surface, purplish in colour, sometimes with a minute depression in the centre, and generally irregularly angular. The eruption may be widespread, but the favourite sites are the insides of the knees, the fronts of the wrists, the leg generally below the knee, and the mouth. As it is very itchy, scoriæ are often present. The above is the common type, but sometimes it occurs in an annular form, and at other times it becomes thickened and hypertrophic. The lesions, especially in

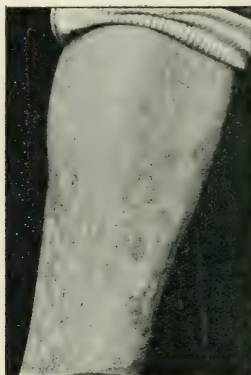


FIG. 22.—Lichen Planus. Thorny isolated nodules.

the hypertrophic type, often leave a very deep pigmentation behind them. A form called lichen verrucosus occurs mainly on the limbs, and may cover the whole lower limb, with a roughened nutmeg-grater appearance, while at other times it simulates a rather rough scleroderma. Even, however, in these patches, isolated papules may be seen at the edge, with typical angular formation.

*Diagnosis.*—While worry or nervous debility is no doubt a factor

in many cases, the writer has seen it occur in the most phlegmatic of individuals, and the true etiology has still to be discovered. Psoriasis may closely simulate this condition, especially when



FIG. 23.—Lichen Planus, showing pigmentation and scratched lesions.

there is a widespread eruption all over the body to be considered, but the absence of scales, the presence of itching and the angular character of the eruption are generally sufficient to exclude the

former. Syphilis may produce an almost identical eruption, but it is not itchy, nor so angular, and is more deeply infiltrated. Both diseases produce an eruption on the mucous membrane of the nasopharynx, but on the whole the linear character of lichen is quite distinct to the trained observer, although in colour it may be exactly similar. The Wasserman reaction also should, at least at this stage, be of value. Dermatitis on the arms and legs, if not carefully examined, may lead to a wrong diagnosis. The history of external irritation, the character of the papules, the presence of vesicles, and the distribution of the eruption, should enable one to differentiate between the two. It must be remembered that both syphilis and varicose dermatitis may be followed by pigmentation.

*Treatment.*—In acute and extensive cases especially, three internal remedies are of great value: mercury (strongly recommended by Dr Walker) probably takes the first place, but is closely followed by arsenic and quinine. Whichever is used should be pushed to the limit of tolerance and then stopped. Locally, unless in a widespread case, the best remedy is crude tar painted on about every fourth or fifth day, or a 10 per cent. solution of tar in benzole and acetone daily. If the itching is very severe,  $2\frac{1}{2}$  to 5 per cent. of thymol in olive oil or vaseline, as suggested by Crocker, should be rubbed thoroughly in twice daily. Unna recommends an ointment containing perchloride of mercury and carbolic acid:—

R Hydrarg: Perchlor.	.	.	grs.	2
Carbolici Acidi	.	.	grs.	20
Ungt: Zinci ad.	.	.	oz.	1

which may be made weaker or stronger as required. Thickened patches may be treated effectually by freezing with  $\text{CO}_2$  snow. There is probably, however, no remedy—which alleviates the

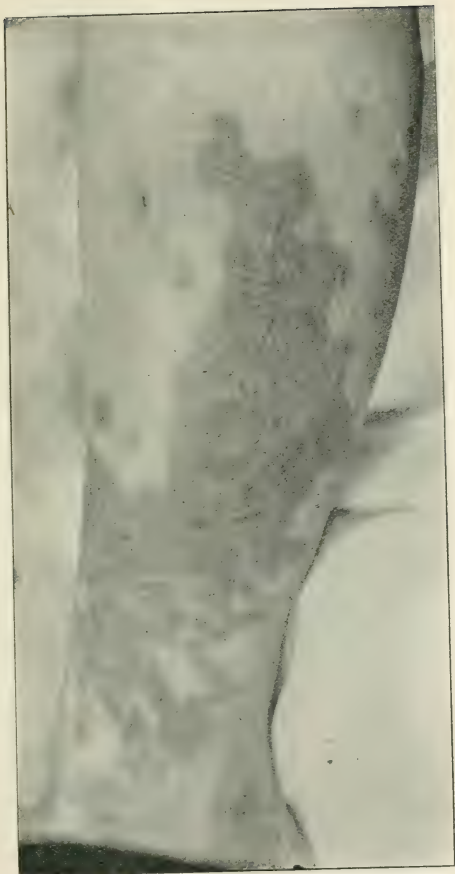


FIG. 24. Lichen Planus. Chronic type.

itching and reduces the thickening in chronic patches, especially of the verrucous type—to be compared to X-rays. This should be administered in pastille doses at intervals of two or three weeks.

It will often be found that cases in spite of all treatment last for years, and even fairly acute and recent types yield most readily to a complete change of environment.

## CHAPTER X.

### PITYRIASIS GROUP.

#### Exfoliative Dermatitis.

The name commonly applied to this condition is pityriasis rubra, and it may be defined as a generalised inflammation of the skin, characterised by redness and scaling. Occurring as a sequel to many skin conditions, it may, however, occur without them. It generally begins in scattered regions, such as the axillæ or groins, and spreads elsewhere. When fully developed, there are grey scales, large or small, which may come away in great quantities. The skin is very red and thickened, and constitutionally the patient may be very ill. At times the onset is preceded by feverishness, and generally the temperature is 1 or 2 degrees above normal when the patient is seen. As a disease *per se*, it is probably due to some toxic condition, and then may closely resemble scarlet fever; otherwise, it may be a sequel to psoriasis, dermatitis, seborrhœa, lichen etc., or to the use of some irritant remedy in these diseases, as for instance, chrysarobin, tar, or iodoform. It is difficult to say what determines the onset. Lowering of the general health, a severe chill, or some toxæmia, may be the cause, and organisms have been blamed in certain cases. Whatever the origin the prognosis is grave, especially in the case of old people, because of the great disturbance of the cutaneous vascular system, and the liability to cardiac failure and hypostatic congestion of the lungs from lowered blood pressure.

*Treatment.*—Rest in bed is absolutely essential. As the skin,

which is one of the eliminative organs, is *hors de combat*, it is necessary to see that the bowels and the kidneys are acting freely.



FIG. 25.—Exfoliative Dermatitis.

The writer does not approve of the administration of antimony, which has been recommended, and finds more value from the use of digitalis, or strophanthus when there is the slightest sign



of cardiac failure. Quinine seems to have an extraordinary good effect on certain cases, and its use is to be recommended. Stelwagon gives carbolic acid in 20 to 30 grain doses in glycerine and water, watching closely its effect on the kidneys; he considers that the usual  $\frac{1}{2}$  to 1 grain doses are useless. This, or some other intestinal antiseptic should be tried when there is the slightest indication of a toxæmia. There is always one reservation, namely, that valuable as these remedies may be in chronic intestinal toxæmias, one need not be surprised at a partial failure where the mischief is already done. Buttermilk treatment in certain cases may be found helpful.

Locally, the treatment must be soothing, and if the patient is so prostrated that a bath would be too exhausting, sponging with Condy's fluid may be substituted. Bismuth oxychloride, 10 grains to the ounce in vaseline, is generally well tolerated when rubbed over the whole skin surface. Borocalamine lotion may be substituted for this, if it is not found to be too drying. The treatment in any case will take a month or two.

### **Pityriasis Rosea.**

This is a mild inflammatory affection in which there appear discrete or confluent salmon-coloured patches, generally rounded and slightly raised, which are scaly and appear mostly on the trunk. If a history is obtained, in most cases there will be a record of a preceding "herald" patch, occurring commonly on the front of the abdomen or on the thigh about a week or ten days before the rash appears elsewhere.

The etiology is quite unknown, although a parasitic theory is most commonly held. The writer has known its appearance after a drenching with sewage water. It seems also to occur most commonly about puberty, as if this were the age of susceptibility.

Seborrhœa corporis and syphilis are the two diseases most

commonly confused with this condition. The syphilitic eruption is a secondary one, and therefore the presence of other secondary symptoms and a positive Wasserman reaction will clear up this point.



FIG. 26.—Pityriasis Rubra Pilaris.

Seborrhœa corporis affects the scalp, the flexures, and the limbs much more commonly, and is not preceded by a "herald" patch.

While this may be so, the writer has seen one expert der-

matologist classing a case as a seborrhœa corporis, while another one simultaneously classed it as a pityriasis rosea. As the treatment is the same in both cases, it is not a serious blunder to commit.

*Treatment.*—If the condition is left alone, cure will generally follow in six weeks, but daily baths containing permanganate of potash, and the inunction twice daily of 10 grains each of sulphur and salicylic acid in the ounce of vaseline, is undoubtedly the most efficacious treatment.

### **Pityriasis Rubra Pilaris.**

This is a comparatively rare condition, which is, however, often undiagnosed. It is characterised by the appearance of reddish papules arising from the hair follicles. These papules are rather horny but generally become surrounded with inflammatory exudation, and in large patches are therefore not distinguishable. While the whole body may be involved, one mostly sees the eruption affecting the limbs and face. On the middle phalanges of the fingers the nutmeg-grater appearance of the follicle will be noticed. Elsewhere the eruption closely resembles psoriasis, from which it differs by being more definitely marginate, less scaly, and not showing the punctate hæmorrhages on scraping with the finger nail. In many cases the eruption is slightly browner than psoriasis; otherwise one must judge by history. Psoriatic cases are recurrent while these are not.

The progress of the disease is very chronic, but there may be periods of improvement and retrogression. The etiology is unknown, and the disease effects both sexes and at any age.

Microscopically, it is found that there is a hyperkeratosis of the hair follicles with secondary inflammation.

*Treatment.*—Treatment is symptomatic. The use of salicylic acid in ointment to remove the scales, and the subsequent applica-

tion of tar has given the best results in the writer's hands. Arsenic internally in one case of a boy was successful when other remedies failed, but this is not at all a common result. Apart from this, general tonics and cod-liver oil should be tried.

### **Pityriasis Versicolor.**

PITYRIASIS VERSICOLOR is not so frequently seen now as in former years. It occurs as a pigmented eruption mostly about the front and back of the chest and trunk although it occasionally spreads down the upper arm. Very little itching is caused, and owing to the small amount of scaling and elevation, the patient may keep the disease as a curiosity for years. Formerly it was commonly observed in the neglected phthisical individual, and every now and then it is apt to be mistaken in these for pigmentation. This mistake is readily avoided by scraping off the furfuraceous scales with a sharp spoon, and after soaking them in liquor potassæ they can be examined under the microscope when the microsporon furfur will be readily found.

*Treatment.*—Thorough daily washing, scrubbing with a 10 per cent. solution of photographer's hypo in water and inunction of ten grains to the oz. of salicylic acid in vaseline will readily cause the disappearance of the eruption.

## CHAPTER XI.

### TUBERCULOSIS AND THE TUBERCULIDES.

THIS subject is a very extensive one, and it must be considered and treated simultaneously from the point of view of general tuberculosis. It is not the writer's intention to go minutely into the etiology of this condition; sufficient that the bacillus produces its specific lesions in the true skin, and subsequently grows up through the epidermis. The attacks commence generally before puberty, and they may arise in various ways.

In this connection it is as well to consider the sites of tuberculosis as they give us a clue to the methods of infection. The face is the part of the body which is most frequently affected, then come in series, the limbs, scalp, and trunk. When the face is affected the disease is commonly observed to commence in the nose. The mucous membranes may also be involved, and especially in face cases a large percentage, some say even 80 per cent., have lesions inside the nose or the palate. Females are infected in the proportion of about three to one male.

From these facts, and from observation of a large number of cases, the writer feels convinced that the most common infection takes place through the mucous membranes to the glands of the skin. It is well-known that in abdominal tuberculosis there may be no signs of disease in the intestinal mucous membrane, although it is practically certain that the bacillus must have passed through the mucous membrane to reach the glands. Probably there is some derangement of the mucous membrane of the naso-pharynx which allows the penetration of the tubercle bacillus. It is right

to state, however, that many cases have been examined by rhinologists at the instance of the writer, and a negative report received.

Another method of infection may be seen to occur after some of the endemic fevers, most commonly chicken-pox, measles, and whooping-cough. In such cases the cause of spread is a breaking down of an old nidus, with diffusion through the circulatory or lymphatic systems. In this type it is quite common to find nodules appearing simultaneously on various parts of the body. Lastly, there is the case of direct local infection, and while this may occur at any age, it also generally occurs before puberty. A history is sometimes obtained of a slight abrasion of the skin in which healing is delayed, and from which the disease subsequently spreads. Another instance is often noticed where the skin round the sinuses of discharging glands becomes secondarily involved. The name of *lupus vulgaris* generally applies to the affection arising without deep-seated involvement, and *scrofuloderma* to a similar eruption arising secondarily from tuberculis of the glands or the bones, but as indicated above no hard and fast line can be drawn between these. Clinical facts bear out the same difficulty, therefore it is advisable to speak generally of tuberculosis cutis.

The course of the disease is a very chronic one rarely starting before three years of age, and also rarely after puberty. A lesion having once appeared may last a lifetime, its growth being most insidious, at times remaining stationary or even healing, at other times becoming more active and gradually spreading. It may be generally stated that on the face the lesions never heal spontaneously, but on the limbs and trunk this desirable result may occur. The vascularity of the face is commonly said to be the reason of the difficulty of treatment in that region.

Carcinoma may develop later in life, and X-rays have been held to be responsible for a reported increase of this condition. The writer is not at all inclined to hold this view.



FIG. 27.—Early Tuberculosis.



FIG. 28.—Tuberculosis.



Microscopically, tuberculosis shows a chronic cellular growth, due to the invasion of the true skin by Koch's bacillus. Starting first as small nodules, variously described as apple jelly or barley sugar in colour, these nodules aggregate, and eventually thickened infiltrated patches are formed which gradually extend at their margins. From the true skin, the growth upwards may cause destruction of the epidermis, and ulceration ensues, or it may cause irritation of the



FIG. 29.—Lupus Carcinoma.

epidermis with the formation of a warty or fibrous growth on the surface due to thickening of the epithelium. If it is remembered that the primary nodules occur deeply in the corium, it will be understood that their inception is bound to be invisible. In this there is a close resemblance of tubercle of the lungs where the earliest signs are not detectable. Later, the nodules become noticeable, and can be more readily recognised by pressure with a watch glass or a slide which, by rendering the surrounding parts

anæmic, makes the nodule more evident. When fully developed the areas may be very extensive, and they show an active edge with scarring or ulceration in the centre. Not infrequently, smaller nodules may be observed outside this active edge. If the nose and the parts around it are involved, there may at



FIG. 30.—Chronic Tuberculosis.

first be swelling or slight ulceration, and later, destruction of all the tissues, except the cartilage, which may drop out afterwards.

To sum up, the chronicity, the presence of scarring, ulceration, and apple jelly nodules, are the points to be relied on in diagnosis.

At a later stage much deformity may result, especially if the disease occurs round the mouth, the nose, and the eyes, or on the limbs, this being due not only to the destruction by the disease, but to



FIG. 31.—Tubercular Lymphangitis.

the contraction of the scar tissue. Microscopically, we find an infiltration of small cells in the true skin, with epithelioid cells, accumulated in masses, and, finally, giant cells. If sections are stained for the bacillus by the Ziehl-Neelsen method, they will

generally be found, although not in large numbers. A later stage, microscopically of course, may show necrosis of the tissues.

*Differential Diagnosis.*—Perhaps the three diseases most commonly confused with tuberculosis are epithelioma, rodent ulcer, and syphilis. Epithelioma occurs late in life, grows rapidly, is more ulcerated, shows no scarring and no apple jelly nodules. Rodent ulcer has its favourite sites (*q.v.*), has often a rolled pearly edge, occurs generally about the climacteric, and may show scarring, but no apple jelly nodules.

Syphilis may closely simulate tuberculosis, and careful enquiry be needed before a decision can be made. The history is of importance, but that is not always reliable in this disease. The Wasserman reaction, the presence of the *treponema pallida*, and the characteristic pigmentation may enable us definitely to diagnose syphilis. Apple jelly nodules may be found here, however, and the observer must not be misled by their presence. It is generally at the tertiary stage that the difficulty arises, and in that event one will possibly find other scars more or less pigmented. The administration of potassium iodide and mercury, if found to be beneficial when pushed, will clinch the diagnosis. Perhaps one of the best means is to employ a 10 per cent. of old tuberculin in vaseline over the affected area for twenty-four hours, and generally, if the disease is tubercular, there is a marked local reaction. The use of Von Pirquet reaction is of some value, as, when positive, it indicates tuberculosis somewhere in the body. The hypodermic injection of old tuberculin is, in the writer's opinion, useful both for diagnosis and treatment. For an ordinary healthy individual  $\frac{1}{1000}$  c.c. will probably produce both a general and a local reaction if the condition is tubercular. A general reaction should consist of a temperature of 100°, with the usual symptoms of headache and malaise. The local reaction consists in marked swelling of the part with erythema around.

*Treatment.*—The first essential point is the care of the general health of the patient, and the physician must be guided in this connection by the treatment of tuberculosis generally. In the writer's experience, tuberculosis of the skin heals up much more rapidly in the young and strong than it does in the old or weak. The more specific treatments by tuberculins have now definitely established their place in the routine. As regards how and when to use tuberculin "every warbler should know his tune by heart," and it is better to understand thoroughly the effects of one preparation than to deal indiscriminately with many. The old tuberculin is much the most powerful, and reaction doses at intervals of about a month, gradually increasing, will often produce great benefit. Next to this, in the writer's experience, is the T.R. tuberculin, which he finds best to use with a commencing dose of  $\frac{1}{4000}$  c.c., given at intervals of three weeks and gradually increased according to the local effect and weight of the patient. In Edinburgh the writer has watched Norman Walker's experiments where an ointment containing 5 or 10 per cent. of old tuberculin in vaseline was applied on lint daily over the affected part. The results were reaction with erosion of the more active nodules, and when the condition was soothed down manifest benefit could be observed. This method is undoubtedly efficacious in the softer types of the disease, but where the condition is at all fibrous very little benefit is obtained.

*Surgical Methods.*—Excision is a sound plan if the situation permits of free removal. The mistake of the operation is commonly that of not going deep enough, and therefore it is not generally feasible on the face. Bier's congestion, especially when the disease affects the limbs, is a very useful adjunct to any treatment, and may in itself be curative. Scraping with a sharp spoon, under a local or general anæsthetic, is an old method, and if followed by a thorough closing of the lymphatics and blood vessels by means of the chronic acid bead or other caustic, it is

excellent. Isolated nodules can be treated by electric cautery, or spiking with a match or dental burr previously dipped in pure carbolic acid. The amount that can be done depends upon the tolerance of the patient and the peculiarity of the patch. This method acts in part by mechanical destruction and in part by killing the bacilli by the antiseptic introduced.

*Chemical Methods.*—Various caustics are useful. The writer prefers the salicylic and creosote plaster muslin made by Beiersdorf, and not at present obtainable. 10 per cent. of pyrogallie acid in vaseline applied on spreads of linen for three or four days is an admirable application for small areas, particularly those following a tubercular sinus. It produces a slough, which separates off after about a week under soothing applications.

Arsenic is very drastic in its action and very painful when applied. It may be made up in a paste with acacia in a proportion of 1 to 6 or stronger. Much œdema generally follows, but after the slough separates the condition will generally be found to be much improved.

Some authorities recommend chloride of zinc or caustic potash, in sticks, and set a high value on their results.

Unna, reasoning from the use of liq. antimonii chloridi, considers that it is the chlorine in liquid solution that causes the destruction. He recommends the more powerful hydrochloric acid saturated with chlorine gas, and it is undoubtedly very efficacious. The parts have first to be frozen by ethyl chloride, and then the acid is rubbed thoroughly in by means of a piece of wood with cotton wool wrapped round it. The pain, even with the anæsthetic, is severe, but abates in an hour. A black slough remains, which comes off in a week or two, and the surrounding skin is then found to be unaffected. The writer has seen cases cured by this means, when other methods only produced a temporary relief.

The liq. antimonii chloridi can be used over larger areas,

and is painted on daily until the inflammation becomes severe, and then the area is treated with zinc paste.

Tri-chloroacetic acid possibly acts in the same way, and its value, especially when painted over the fungating areas, is very great. The acid is crystalline, but when exposed to air, liquifies, and can be used in that state or dissolved in alcohol. In hospital, a fortnightly application of this remedy, continued over a considerable period, has been noticed to produce at times almost marvellous results.

Carbonic acid snow, applied with moderate pressure from thirty to sixty seconds over small patches, gives good results, but should not be used where the part is soft and yielding. Many small patches can be cured by this means.

Where it is desirable in a widespread case to give patients some remedy which they can use themselves, one of the most efficacious is an ointment composed of  $2\frac{1}{2}$  per cent. of oleate of mercury in vaseline. This should be thoroughly rubbed in for twenty minutes night and morning, and the results correspond with the thoroughness of its use.

*Radio-Therapeutic Methods.* — Ultra-violet rays, obtained through a Finsen lamp in any of its modifications, or by means of a mercury vapour lamp, are valuable. As these rays cannot penetrate blood, the part has to be rendered anæmic, and therefore it can only be used over small areas and where pressure is obtainable. In expert hands the results are excellent, and the scar is soft and pliable. Radium, when it can be obtained, is very reliable in its action, but as long as financial profits prevent this remedy from being universally available one cannot say very much. X-rays, which used to be given in a haphazard way, are now best administered in large doses at intervals. They can be used over large areas, do not require pressure, and act probably by producing atrophy of the diseased tissue. Administered with care the remedy is of much value. It is not the object of this work



to go into the details of these methods, and it is always advisable that radio-therapeutic remedies should be administered by an expert.

It will be readily recognised that there is an immense choice of remedies to be used in tuberculosis of the skin, and the method to be adopted must depend on the state and situation of the disease. If there is much fungation of the tissues, this naturally should be removed by scraping or cautery before attempting to treat with other remedies. Ordinarily, the writer



FIG. 32.—Lupus Verrucosus or P.M. Wart. (Hand).

finds that the administration of tuberculin, the use of X-rays, or trichloracetic acid and oleate of mercury, can go on simultaneously, at least in hospital cases. When most of the diseased tissue has been removed by these means then the remaining nodules can be spiked with carbolic acid. In conclusion, every case should be kept under observation for at least a year after the last signs of the disease have been seen.

### **Verruca Necrogenica.**

Verruca Necrogenica may be defined as a localised lesion occurring by direct infection in an individual whose health is

good. Pathologists, surgeons, students and nurses, or abattoir attendants are those who most commonly suffer, and the site is generally the knuckles or the back of the hand. The condition is allied to fibroid tuberculosis, and while the above lines of treatment are quite sound, the condition will be found to yield most readily to the use of CO<sub>2</sub> snow, X-rays, and radium.

### **Tuberculides.**

THIS is a group of diseases with a questionable position. At present the view most commonly held is that they are eruptions on the skin caused not by Koch's bacillus directly, but indirectly by toxins of these bacilli circulating in the blood.

In affected individuals, according to this belief, there must always exist some deep tubercular infection whether it be in the lung, abdomen, or elsewhere. If every case would show a reaction to tuberculin, views might be simplified, but they do not uniformly react. On the other hand, many do occur in tubercular subjects, and some eventually die of general tuberculosis.

The writer is convinced that research on scientific lines will ultimately lead to a more careful definition of the limits of this group. Modern staining methods, which do not yet reveal degenerate forms of the bacilli, are still at fault, and enough work has not been done along the lines of animal inoculation.

Lichen scrofulosorum and lupus erythematosus are the only two certainties in the writer's mind, and the last is by some held to be non-tubercular. Erythema induratum affecting young people has been found by Whittfield to react to tuberculin, but the writer has not had the same success. Aene necrotica should, in the writer's opinion, be excluded, but it is placed here for convenience.

### **Lichen Scrofulosorum.**

This is a mild inflammatory disease, usually occurring in scrofulous subjects, and characterised by the appearance of round

or flattened reddish-yellow papules the size of millet seed, and is most commonly seen on the trunk. Very little itching or discomfort is experienced, but the attack, which may last for some time, often leaves minute stains. Of great interest is the fact that the eruption may follow an injection of tuberculin. The presence of the bacillus in the lesions has been recorded by some observers, but many others have failed to find it. The differential diagnosis is generally easy when one considers the type of patient. A miliary papular syphilide closely resembles the eruption, but it is accompanied by other signs of syphilis. Lichen pilaris occurs on the limbs, there is no grouping, and it is a much more chronic condition. Papular dermatitis is rare on the trunk alone, is generally itchy, and there are other signs of dermatitis present. The prognosis is quite good, although the lesions may persist for some time.

*Treatment.*—General treatment must be carried out, and locally, a weak lead and tar lotion is to be applied. Some authorities recommend cod liver oil internally and externally.

### **Erythema Induratum.**

This eruption is still called by the name of its discoverer. "Bazin's Disease." Prolonged strain on the circulation of the lower limbs and general debility are main factors in the condition, which might be tersely defined as the disease of anæmic shop girls. The first sign is the presence of hard nodules, chiefly affecting the lateral or posterior aspects of the lower half of the leg; more seldom do we find the thigh also involved. These nodules feel deep, have at first a faintly pigmented appearance, and later become purple or cherry colour. The surface may break down, and a deep callous ulcer form with abrupt edges. The condition may last for months or years, and gets worse when the health deteriorates. On other occasions the nodules simply become absorbed, and the final picture

of a leg which has been affected in either case shows very marked pigmentation. Whitfield divides the disease into two classes—tubercular, and non-tubercular. The first is the type of individual described above, and the second is the fat washerwoman. He has recorded the fact that the first reacts to tuberculin, and the second does not. In the writer's experience, neither a general nor a local reaction occurs with the use of tuberculin in either class.

The etiology is obscure. Some authorities have found the



FIG. 33.—Erythema Induratum. Fungating Type.

tubercle bacillus present in the lesions; others regard it as a venous thrombosis. There is nothing in the writer's experience pointing to thrombosis, but it is undoubtedly associated with prolonged standing and imperfect circulation.

The main points in the differential diagnosis are the following:—

Erythema nodosum does not ulcerate, does not show pigmentation, and yields to anti-rheumatic treatment. Varicose ulcer is generally accompanied with a very evident varicosity of the veins. Syphilis most closely resembles this disease, and it is often exceed-

ingly difficult to separate the two. The pigmentation and scarring occur in both, and one must depend on the presence of other symptoms and the effects of treatment to distinguish between them. The Wasserman reaction is of little value in the case of leg ulcers.

*Treatment.*—Rest in bed, the use of elastic bandages, and the application of strapping are all very valuable; 10 per cent. of ichthyol in ointment or paste is probably the most useful of



FIG. 34. - Erythema Induratum, showing bilateral character.  
(Girl's legs).

applications. If success is not obtained by these means, then X-rays should be used, as this agent often proves to be curative.

### **Acne Necrotica.**

This disease closely resembles the ordinary acne, but shows more deep scarring, and some maintain that it affects the frontal region more commonly. There is a confusion of terminology here, and the name *acne scrofulosorum* is sometimes employed. In the writer's opinion, neither of these conditions is purely tubercular, and they are simply manifestations of inflamed indurated acne

occurring in debilitated subjects. The treatment for both is the same as for *acne vulgaris*.

### **Lupus Erythematosus.**

This is a chronic, mildly inflammatory disease, distinguished by the presence of pink or red patches covered with greyish-yellow scales, and accompanied by fine scarring. Three varieties are generally mentioned. Firstly, the acute form, which spreads rapidly over the body, and is almost always fatal; the other two

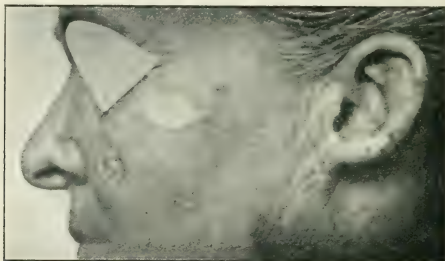


FIG. 35. Lupus Erythematosus.

forms being the circumscribed and the diffuse. The circumscribed type affects the face, ears, scalp, and hands, shows definitely outlined areas with grey scales, and when these grey scales are removed, small stipules can often be demonstrated projecting from their lower surface. If the disease has lasted for some time, the skin may show a fine scarring with minute depressions from which the stipules have evidently been removed.

The well-known butterfly or bat's wing distribution belongs to this variety, and affects the bridge of the nose and the flush areas of the cheek. The ears may show swelling, or, at later stages, cicatrisation. When the disease affects the scalp, baldness,

redness, and scaling with an irregular outline of the patches is to be observed. The diffuse type affects the face, has more erythema, no definite margin, some scaling, scarring, although not so definite, and occasional telangiectases. The disease in whatever form, commences usually in early or middle adult life, rarely in childhood, and more than two-thirds of the cases are seen in women. Recent researches have shown, in cases examined, that the diseased skin, when introduced into a guinea-pig, produced general tuberculosis, although microscopically no bacilli can be detected in the lesions in the human being. Some authors aver that it is associated with vascular disturbance in the nose and throat, but the writer is of opinion, from the large number of cases seen and the type of individual affected, that it is undoubtedly associated with tuberculosis in the majority of patients.

*Treatment.*—For the acute type, the administration of general tonics is the chief method of treatment. For the circumscribed type, freezing with  $\text{CO}_2$  snow, when judiciously done, gives best results. It is a mistake to give a prolonged exposure; generally 5 to 15 seconds with light pressure is quite enough, or if preferred, the snow may be used dissolved in ether, and simply painted over the affected areas. If the applications are too severe or too prolonged, the scarring may be increased.

For the diffuse type, and the occasional case of circumscribed type not yielding to the above plan, the painting on of decolorised iodine to the limits of tolerance, and the administration of quinine internally, also to the limits of tolerance, is the best routine plan. The Finsen lamp is often very beneficial, and need not be applied with pressure. Small doses of X-rays are strongly recommended by some writers, and occasionally in the author's experience he has found them of use. The general well-being of the patient should be carefully attended to.

## CHAPTER XII.

### PIGMENTARY CHANGES AND HYPERTROPHIES.

#### Leucoderma.

THIS condition occurs at all ages but is rare in infants and old people. Commencing as a small white patch, in which the heaped up pigment around leads often to a diagnosis of hyperpigmentation, the patches may gradually enlarge and spread over all the body. In the darker races the affect is very striking, and the disease is certainly more extensive in hot countries. In this country, the most common sites are the face and the hands, but the scalp and trunk are also frequently involved. What will strike the observer in a fully developed case is the symmetrical nature of the patches, for instance, it is often noticed on the backs of both hands near the radial side, and symmetrical patches occur all down the trunk, arms, and thighs. The individual patches, when felt, reveal no thickening of the skin, and when examined for the sense of touch and pain no anæsthesia will be found.

This last point is of the greatest importance in the differential diagnosis between leucoderma and leprosy, which is practically the only disease with which it may be confused. Scleroderma may show some whitening of the areas involved, but has a distinct boardy hardness. Some observers incline to the view that leucoderma is of nerve origin, but the writer is convinced that we have to deal with a condition in which intestinal toxæmia is the central factor, and that the actinic rays in



many cases have an influence in determining its origin and localisation.

*Treatment.*—The course is a very chronic one, and, as has been remarked, gets worse in the summer, but intestinal anti-



FIG. 36.—Leucoderma.

septics used over long periods, along with sponging of the affected parts with solution of permanganate of potash and the application of ichthyol paste locally, are very frequently followed by a complete recovery.

### Chloasma.

While pigmentation may be produced by external causes, it very frequently has an internal origin. The pigmentation associated with disease of the suprarenal capsule is well-known, so also is that associated with pregnancy, but there are many other cases which are of uncertain origin occurring on the face and elsewhere, and generally attributed to hepatic disorder or intestinal toxæmia. In any case, the treatment along these lines gives best results.

### Scleroderma.

A condition occurs in infancy which is called sclerema neonatorum. This condition is, however, more probably a generalised œdema than a true scleroderma, and is very often fatal. Scleroderma occurs in two forms—localised or diffuse. The localised form is sometimes called morphea a term which is to be deprecated. Occurring in an isolated patch, the first signs may be slight redness, swelling, and possibly itching. A light brownish colour may now appear in the centre, which eventually turns white. To the touch the skin is very firm and when nipped between the finger and thumb it will be noticed that it has lost its power of wrinkling. The discrete patches are most commonly seen on the back or limbs, but like the diffuse form, may occur anywhere. The patches in the diffuse type may grow very large, and in fact extend all over the body. If the thorax be involved, respiration may be impossible and death ensues. If it occurs on the limbs, then the pressure may produce atrophy of the muscles and the general development of the limb may be impaired. While most cases gradually improve after a time, we may have as a sequel, atrophic disturbance of the limbs, face, or trunk generally.

*Treatment.*—Massage is probably our most effectual agent, and it should be accompanied by the use of either olive oil or lanoline. Fibrolysin has yielded good results in some hands, but

it is uncertain. Thyroid is also worthy of a trial, but time is perhaps the most powerful agent on the side of the patient except in localised cases when X-rays in pastille doses act effectually.

### Ichthyosis.

This is a chronic disease of the skin, mostly of congenital origin, involving all but the flexor surfaces, and in which the skin shows a marked dryness, harshness, scaling or horny formation. The mildest phase goes by the name of xeroderma,



FIG. 37.—Ichthyosis.

and all stages are seen between this and the fully-developed disease. In the more severe types, large plate-like scales, often hexagonal in form, are to be observed all over the body, but generally worst on the extremities. The nature of the disease is very obscure, and although Unna's explanation of it as being a perpetuation of a foetal layer called the epitrichium is interesting, it is not yet proved.

The usual result, however, is that the skin suffers from a hyperkeratosis, which completely or partially destroys the action of the sweat and fat glands. A patient with this condition being

unable to perspire, suffers more or less severely in hot weather from the vascular congestion, and being devoid of oil, the skin is more susceptible to irritation. These individuals are generally rather thin and weedy, accounted for no doubt by the lack of elimination from the skin. In cold weather the extremities suffer very much from the presence of chilblains, and the hard masses of scales being apt to crack across, often in so doing produce fissures of the skin, which become infected with the ordinary pyogenic organisms. The condition is generally noticed in the first few weeks of life, but, however, it may be ante-natal, as in the case of the harlequin fœtus.

*Treatment.*—In milder cases the rubbing in of olive oil or lanoline is often quite sufficient to make life easy. In severe cases, with large masses of scales, starch poultices may be required to remove these, and subsequent applications of mild antiseptic ointments to get rid of the secondary infection. After this the favourite ointment used by the late Dr Allan Jamieson is often beneficial; it consists of 10 grains of resorcin in the ounce of glycerine of starch. Thyroid extract is a valuable drug, and when administered with care over prolonged periods, will be found to produce a marked improvement. In recent years, the writer has adopted the suggestions of some authorities and given a full trial to the use of intestinal antiseptics and colon-lavage. The results have been very promising, and even although the whole action of the treatment may be that of increasing elimination by other channels, and so alleviating the strain on the skin, yet the effect on the general health is so beneficial that the skin also seems to become revived. In two cases so treated in adults, after some months of treatment the patients were able to perspire for the first time in their lives. The process is quite simple, the patient can himself take large enemata of tepid or warm water every night, while at the same time salol or beta-naphthol is administered by the mouth.

**Keratosis Plantaris et Palmaris.**

Is another hereditary and congenital condition affecting the palms and soles. It yields best to the use of plasters containing 3 to 10 per cent. of salicylic acid.

**Lichen Pilaris or Spinulosus.**

Occurs as a congenital condition on the back of the neck, shoulders, and extensors of the limbs. It is seen in all stages, from the simple goose skin to one in which very definite horny spines are noticeable. There is very little redness, unless the areas become irritated. The signs of the disease may be removed by the use of salicylic acid or resorcin in vaseline.

**Acanthosis Nigricans.**

Acanthosis Nigricans is a disease affecting the flexors and often mistaken for ichthyosis. Much rarer than the latter condition it also differs from it in so far as it affects the flexors, such as at the axillary, elbow, and genito-crural regions. Microscopically we also find a marked difference, as in this disease the lesions commence in the Malpighian layer. Fully developed, the brown or almost black, velvety and linear overgrowth in the region of the flexors is very characteristic. There is a great tendency for malignant disease to develop later. Treatment is purely symptomatic.

**Callositas.**

These are overgrowths of epithelium due to pressure and irritation. The horny hand of toil or the student's elbow (more frequently read about than seen) may serve as illustrations. Again excessive perspiration predisposes to this condition. Salicylic preparations and carbonic acid snow may be used as in the treatment of corns.

### Clavus or Corn.

Clavus or Corn consists of a callosity often with a small synovial sac underneath it, occurring mainly on the toes. It is undoubtedly a heritage of the bootmaker, and is most likely to occur, in the irritable form at least, in those who suffer from perspiring feet.

*Treatment.*—Making the boot fit the foot is the simplest plan, but, unfortunately, the ordinary adult foot is pressed out of all recognition by the time this is done. All sorts of elastic contrivances are made to try and increase the interdigital spaces and prevent the overlapping of the toes, and within limits they are of value. The soft corn is best treated with boracic soaks followed by ichthyol paste 10 grains to the ounce, applied on spreads of cotton and then treated with salicylic preparations.

The harder corn should be treated right away with salicylic preparations. As the latter aims at the removal of the thickened epithelium, it is desirable to soften this down as much as possible, therefore soaking in alkaline solutions should precede. While the writer is not keen on the use of corn razors and all the paraphernalia from which the chiropodist makes money, yet the use of a sharp spoon to remove much of the softened epithelium is advantageous. Salicylic acid may be used in plaster or ointment 5 to 10 per cent. strength or a drachm of salicylic acid with 5 or 10 minims of tincture of cannabis indica in the ounce of flexile collodion may be painted on daily. Best of all, if the patient will submit, is a thorough freezing with a stick of CO<sub>2</sub> snow giving a minute of fairly hard pressure. This, in the writer's experience, is a thoroughly effectual treatment, but as it necessitates the patient lying in bed for a day or so, he or she would often rather carry on.

## CHAPTER XIII.

### INFECTIVE WARTS, KELOIDS, AND ADENOMA SEBACEUM.

#### *Verruca Vulgaris.*

THESE are of two types—the filiform or fimbriated, and the flat wart. They are circumscribed epithelial growths occurring chiefly on the extremities and face, owing to the fact that these are the parts exposed to direct infection. The most severe attacks are to be found in children, probably owing to the skin in children being more susceptible to infection. In the adult, they assume a more fibrous type and are much more chronic. The differential diagnosis is fairly easy except in the case of flat warts which are liable to be mistaken for erythematous eruptions or even for psoriasis or lichen. This mistake can easily be avoided if one feels the lesions and convinces oneself of their consistence, and notes also the absence of scaling. No definite organism has been found, but they are undoubtedly due to some low form of organismal life. Probably the infection is one of direct contact from individual to individual, and subsequently spread by contagion to other parts of the body.

*Treatment.*—Many internal methods of treatment have been adopted, and some with apparent success. Lime salts, thyroid, green iodide of mercury, arsenic, and doses of magnesium sulphate or castor oil, are the drugs most commonly employed, and in widespread cases they are worth trying, although no indication for choice can be given. In the writer's hands, green iodide of

mercury has been the most successful. Isolated warts can be removed, if small, by painting with trichloroacetic or nitric acid; if large, they are best removed by snipping off with a pair of scissors and subsequently cauterising the base with the chromic acid bead. Carbonic acid snow may be used with success, but it has the disadvantage of producing a blister which lasts about a week. As the chromic acid only leaves a small black crust, which drops off in a week, it is to be preferred. Where the lesions are very numerous, it is impossible to treat them all in this manner, and exposure to one or two pastille doses of X-rays is then the best plan to adopt. When they occur in children no special anxiety need be felt, but in adults the rule should be to treat thoroughly and effectually and not irritate. Too frequently has the development of epitheliomata been noticed to occur after irritative treatment of warts in adults.

### **Molluscum Contagiosum.**

The earliest phase of this eruption is a small papule, but when fully developed it may be the size of a large pea, pinkish in colour and pearl-like at the top, with a minute central depression. When the fully-formed papule is pressed with a pair of forceps, a thick cheesy material comes out of the centre. This cheesy material, when examined under a microscope, after the addition of a drop of liquor potassæ, will reveal the typical ovoid cells called molluscum bodies, which are the products of a colloidal degeneration of the epithelium. The lesions may be few or very numerous, and occur most commonly on the face and buttocks. On the face it is not uncommon to see a number of lesions round about the eyes, and round the anus there may be also a large group. Sometimes, as is to be expected, these papules become infected with pyogenic cocci, and furuncles are formed. The source of infection in most cases is through public baths or public bathing establishments. Experience



has shown that towels and bathing costumes seem to be the source of spread.

Much research has been done to find the offending organism. Julsberg inoculated broth cultures with the contents of some papules, and subsequently filtered the whole through a Pasteur-Chamberland filter. The filtrate so obtained was rubbed on to the



FIG. 38.—Molluscum Contagiosum (arm).

skin of the forearm which had been previously scrubbed with sand-paper, and in 50 days a nodule developed. The inoculation period by other experiments has been found to vary from weeks to months. No organism has been definitely proved to be pathogenic. The differential diagnosis is easily obtained by examination of the contents. Verrucae are liable to be mistaken, if not tested in the above manner.

*Treatment.*—Small lesions are readily destroyed by painting

with liq. carbolic acid; larger lesions may require puncture with a dental burr, or with a match previously dipped in carbolic acid. Excision is often advised, but it is entirely unnecessary, and leaves a scar. Where, owing to the presence of large numbers of the papules or to the situation, the above method cannot be carried out, then one or two pastille doses of X-rays will be followed by a cure. It is said that a weak mercurial ointment rubbed on the surrounding skin will prevent the appearance of new lesions, but of this the writer is somewhat sceptical.

### Acne Keloid.

THIS is practically always seen on the back of the neck, and follows a chronic staphylococcal infection of the follicles in that region. The induration and cicatrisation produce a bunching of the hair follicles, so that three or four hairs can be seen standing out like a brush with intervening areas completely bald, while the skin between and around is swollen, reddened, and often reveals minute sinuses on close examination.

*Treatment.*—Antiseptic ointments, such as ung. hydrarg. mite, or one containing 10 per cent. of sulphur and 5 per cent. ammoniated mercury, should be rubbed in twice daily. Autogenous vaccines should be administered where possible, but X-rays applied as for keloid is our best agent.

### Keloid.

KELOID is a fibrous overgrowth of scarred tissue due to an intense inflammatory reaction, or, as some state, to infection with other organisms such as the tubercle bacillus. Most commonly it is seen in two conditions, firstly, following a burn, and secondly, as a sequel to the discharge of tubercular glands into the skin. It is to be noted, however, that it may develop on any scar, and even a very minute one. At first there may be a good deal of pain and

tenderness on pressure, owing, no doubt, to the involvement of the nerve terminals, but this disappears after some months, and the subsequent course is that in a year or two absorption takes place.

*Treatment.*—Excision is not to be recommended. X-rays applied in pastille doses at intervals of about three weeks will almost at once relieve the pain and subsequently permit a much more rapid absorption.

### **Adenoma Sebaceum.**

This is a comparatively rare condition appearing as small flattened tumours of the sebaceous glands and affecting usually the face, more particularly the nose and cheeks. The lesions are either warty or flat, and appear soon after birth. They vary first from a pin head to a split pea in size, are yellowish or reddish in colour, and, in the areas around, dilated capillaries are commonly seen. Abnormalities are generally present in other parts of the body, such as nævi, fibromata, warts, and one case was found, after autopsy, to have rhabdo-myoma of the heart. The disease is most frequently seen amongst the poorer classes, and is often associated with defective intellect and a history of fits occurring in childhood. Originally it used to be taught that prolonged administration of bromide was the cause, but this view is not now held.

*Treatment.*—X-rays, curetting, and freezing with CO<sub>2</sub> snow, are the best methods at our disposal.

## CHAPTER XIV.

### NEOPLASMS.

#### Nævus.

THESE vary in size from the small pin-head and spider nævi to the large pigmented hairy mole frequently seen. The spider nævus very often appears late in life, and can be readily removed by electrolysis. The hairy or thickened vascular nævi may attain a very large size, or remain very small; they are best attacked by means of  $\text{CO}_2$  snow. The results with this treatment are exceed-



FIG. 39.—Hairy Nævus.

ingly fine, and in future years will probably be always used in infancy. The process is quite easily carried out by pressure for thirty to sixty seconds of a stick of  $\text{CO}_2$  snow on the area involved. While one or two applications are quite sufficient to remove the growth in infancy, a dozen or so may be required in the case of an adult; hence the above remark. The form of nævus which occurs as a port-wine stain does not yield so satisfactorily to treatment,

and the only curative results worthy of the name are those following the use of radium.

### **Fibroma.**

These may be seen in various forms on the skin and probably in the majority of cases arise from sebaceous glands. The most marked type is seen in the molluscum fibrosum pendulosum which, when extensive, may cover most of the trunk with large pendulous growths, sometimes cystic, at other times like emptied sacks, at others like small cystic swellings. Some observers class these entirely as neuro-fibromata. The etiology is obscure, and the treatment is purely surgical. Whitehouse has recorded a favourable result by the continued use of arsenic internally.

### **Mycosis Fungoides.**

Mycosis fungoides is a rare condition which in its early stage is often overlooked. Commencing as a slightly thickened, scaly and often very itchy eruption—the so-called pre-mycotic stage—the disease after months or years goes on to the formation of definite tumours. In most cases the early eruption is markedly ringed, and the tumour in the later stage, while at first merely rounded, generally breaks down into a fungating mass. All areas of the body may be affected, and even the mucous membranes of the throat and bowel. It is commonly seen in patients over forty and is undoubtedly related to the sarcomata. The only treatment of any avail is the use of X-rays or radium. The writer (while assistant to the late Dr Allan Jamieson), was the first to have the opportunity of using this agent in this disease, and now its value is universally recognised.

### **Sarcoma.**

Sarcoma is occasionally seen in nodular form occurring on various parts of the body, and is very malignant. The rapid

formation of tumours, reddish in colour, tending frequently to ulcerate, generally leads to an early diagnosis. X-rays or radium offer the only hope.

### **Multiple Idiopathic Hemorrhagic Sarcoma.**

Multiple idiopathic hemorrhagic sarcoma is most commonly seen amongst Polish Jews. It generally affects those between the ages of forty or fifty, and is mostly confined to the lower limbs. The course is variable. Sometimes metastases form in the viscera; at other times atrophy takes place. It apparently commences as a proliferation of the connective tissue cells of the small arteries. The lymphatic glands are not involved, and to all appearance it generally follows some slight trauma. X-rays have given good results.

### **Rodent Ulcer.**

This condition is exceedingly common, and its origin is still a matter of conjecture. Probably there are three types. Firstly, those arising at the junction of skin and mucous membrane; secondly, those originating as a benign cystic growth; thirdly, those arising in elderly people in the form of a senile hyperkeratosis from exposure to light, heat, or some other irritant. The common sites are near the eyelids and the nose, but they may also occur on any part of the face or hands; in old people they may be multiple. On enquiry one generally obtains a history of an old standing lesion which has commenced as a small papule, cystic or pearly in appearance, and eventually ulcerated on the surface, but it may have gradually enlarged or even remained unaltered for years. When ulceration does take place, the condition generally advances much more rapidly, and according to the site, with more or less grave results. If it goes deep enough, the bone may be destroyed, and the worst cases are those where the

superior maxilla and the nose generally become deeply eroded. In these regions, the ulceration may, if not checked, often penetrate into the naso-pharynx or up into the eyeball, causing great destruction in these areas.

*Symptoms.*—Generally, the eruption commences about the age of forty-five, but it may be seen as early as the twentieth year. A typical case, fully developed, shows the well-known appearance of a small ulcer, with an unhealthy base and a rounded edge with pearly nodules; sometimes, if it remains superficial, parts heal up and scar over. No discomfort, except a slight itching is felt at



FIG. 40.—Rodent Ulcer.

first, but when deeper tissues are affected severe neuralgia may develop. Microscopically, the skin shows the typical downward growth from the prickle cell layer, and the formation of epithelial cell nests.

*Diagnosis.*—The differential diagnosis in the ordinary case is quite easy, but, if otherwise, one has to consider the possibilities of the eruption being due to syphilis, lupus, or epithelioma. A biopsy will of course eliminate the first two; but if this is not obtainable, then one must depend on history and appearances. The history of syphilis is not so prolonged, and as it is generally in this case tertiary, one should look out for the presence of other

scars and pigmentation, using simultaneously Wasserman tests of the blood and spinal fluid as aids to diagnosis. Large doses of potass. iodide with hydrarg. perchlor. may have some effect on a rodent ulcer, but they will probably entirely remove a gumma. Lupus commences before puberty generally, and while there may be scarring, the apple jelly nodules are commonly evident, and there is not the typical rolled edge observable in rodent ulcer. A very good test is the application of 5 per cent. old tuberculin in vaseline over the patch which will produce a reaction after a few days if the condition is tubercular. Epithelioma is much more rapid in its growth, and may be accompanied by secondary enlargement of the adjacent glands, which are not affected in rodent ulcer.

*Prognosis.*—If the case is seen early a certainty of cure can be given, but if involvement of the sinuses of the face has occurred, then the prognosis is exceedingly grave. The site which, in the writer's experience is the most dangerous, is the lower border of the ala-nasi where it joins the cheek.

*Treatment.*—In the early stages, freezing for a minute with CO<sub>2</sub> snow, repeated on two or three occasions, is generally quite effectual. Almost as satisfactory is a thorough scraping with a sharp spoon, and subsequent cauterisation with a chromic acid bead. Excision, if carefully and thoroughly done, holds out every prospect of success. Where the disease is advanced, then the edges or parts may be scraped or frozen, and the whole treated by X-rays. Generally a dose of a pastille and a half is advisable, given once in three weeks: indeed, the writer uses this even in the earliest case after freezing, to make assurance doubly sure. The results with X-rays are very gratifying, but when the sinuses are involved progress can only be then retarded. Radium, if a good quantity can be obtained, is to be recommended at this stage, and indeed it can be used at all stages, but then it is the only remedy that can be said to cure the disease. In these advanced cases, the writer's



advice is that, if radium cannot be obtained, excision of the superior maxilla should be recommended. There is no disease which is more amenable to treatment in the early stage, but too often it is neglected until all remedies are valueless.

### **Epithelioma.**

Epithelioma in the early stage often leads to difficulty in diagnosis. It differs from rodent ulcer in being more rapid in its spread, in showing no healed areas, and in producing secondary involvement of the lymphatic glands. Tuberculosis and syphilis may also simulate it, but the specific tests for these can be readily carried out.

*Treatment.*—Excision, X-rays or radium, the choice depending on the position of the lesion and the patient's circumstances. Ionisation has not been successful in the writer's hands.

### **Paget's Disease.**

This has been well defined as a malignant papillary dermatitis affecting the nipple. Arising first as a mere superficial dermatitis, the subsequent chronicity, the feeling of thickening, and the unilateral character are the chief points worthy of note. It appears commonly after the menopause, at a time when seborrhœa also is prone to occur, and it is often exceedingly difficult, and yet very important, to distinguish between the two conditions. On the whole, the seborrhœic dermatitis is more moist and not so circumscribed, but above all it yields readily to anti-seborrhœic treatment. Paget's disease is more definitely thickened and circumscribed, and may show some retraction of the nipple. When allowed to continue, the condition spreads into the breast and subsequently to the glands.

*Treatment.*—An early case yields readily to X-ray treatment, but unless this can be effectually carried out, excision of the whole breast should be insisted on.

## CHAPTER XV.

### SYPHILIS AND THE SYPHILIDES.

ALTHOUGH this has now come to be treated as a special subject, its importance in the production of eruptions on the skin renders it impossible to dissociate it entirely from a volume such as this.

When one remembers that there is scarcely a skin disease which is not simulated by syphilis, and in which therefore the differential diagnosis depends on the knowledge of this disease, no defence of this arrangement is necessary.

It has been the writer's custom frequently of recent years to give his last clinical lecture on this subject, using it as a means to recapitulate facts of other eruptions discussed in former lectures.

In dealing with the erythemata, it was suggested that many of these were due to Nature's attempt to excrete the poisons. This then, is one of the most potent microbic poisons which afflicts the human frame, but is characterised by a large variety of eruptions, produced in its excretion by the skin. Primary lesions occurring on the genitals from two to six weeks after infection are fully described in other text books. The extra-genital lesion at present interests us more. The hands (very commonly the knuckle or near the nail), the lips, and the cheeks are the common sites. They are often deeply purplish red in colour and have an unhealthy discharging base. It is not so common to find them multiple as in the genital region. Very soon the adjacent lymphatic glands become enlarged, and in from seven weeks to three months later the secondary symptoms appear. Here at once we are faced with the fact of early diagnosis being necessary. When crusted over

they may be often mistaken for ordinary boils or deep impetiginous lesions. Of course, if every case were treated *secundum artem* and a scraping containing serum were taken there would be few mistakes. This is best done by putting on a soak of normal saline solution for an hour or two, and then scraping the surface gently with the blunt edge of a scalpel or spoon. Harrison has remarked on the fact that syphilitic lesions do not bleed so readily, and exude more serum, than other ulcerating eruptions. As regards the method of microscopic examination of this serum, the dark ground illumination is generally acknowledged to be the best. The treponema

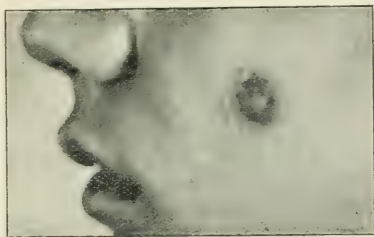


FIG. 41.—Primary Syphilis.

can then be seen actively moving, and of course readily attracts attention. If, however, the Indian ink or other method is used, repeated examinations should be made in doubtful cases before a negative result is accepted as final.

#### SECONDARY SYMPTOMS:—

1. *Constitutional*.—These vary in degree according to the condition and susceptibility of the patient and the severity of infection. While many complain of little or no symptoms, there is generally some lassitude, vague pains through the body more especially affecting the ends of the long bones, and

headache of a peculiar nocturnal character, the temperature being usually raised in the evening. In the debilitated individual one may get an attack of very severe fever with an eruption of a rapidly spreading and deep type, the syndrome forming what is called malignant syphilis.

2. *Mucous Membranes*.—These generally show surface lesions of a grey character occurring on the tonsils, the buccal mucous membrane, or the lips. Lichen planus (*q.v.*) is a likely disease to be confused with syphilis in this connection, but if close observation is made this eruption will be found to be streaky and linear in appearance. More severe ulcera-



FIG. 42.—Tertiary Syphilis.

tions occur every now and then, the most common being a deep sloughing of the tonsils and naso-pharynx.

3. *Skin eruptions*.—The earliest is the roseolar or erythematous eruption. It is most commonly noticed about the trunk, is not itchy and scarcely raised from the surface. The eruption may exactly simulate that seen in measles, influenza, and other toxic erythematata. To illustrate this point the writer may mention that within the last year he has seen two or three cases which had been treated as influenza. Another more recent case was that of a young woman in which the syphilitic eruption had been diagnosed as German measles.

A miliary eruption occurring in groups about the trunk, although most commonly on the limbs, very closely resembles

that of lichen scrofulosorum. This last disease may be slightly itchy and mainly affects the trunk; two points which generally aid in the differential diagnosis. A still larger papular eruption closely simulates lichen planus. It will be recalled, however, that lichen planus is itchy and has certain sites of predilection, these being the fronts of the wrists, the inside aspects of the knees and the legs below the knees.

The papular more or less scaly syphilitic eruption is perhaps the most common. Occurring on the face as raised papules not very scaly, the experienced observer generally at



FIG. 43.—Tertiary Syphilis.

once recognises it. On the trunk and limbs scaling of all degrees is more common, from the slightest up to the thickened rupioid or limpet-shell type. The colour of these and the last form of eruption may be coppery, but the writer advises that too much reliance should not be placed on this. Rather would he insist on the feeling of depth or induration in the eruption. Syphilis is a disease which has a specific effect on the blood vessels, producing endarteritis with exudation round the vessels; it must, therefore, involve the true skin, and this accounts for the feeling of thickness.

To the most experienced observer the question of differential diagnosis between psoriasis and these lesions is

always prominent. Both may be circinate in their character and otherwise absolutely identical, but psoriasis is a disease of long-standing and recurrent manifestations, while in syphilis we have to deal with recent and rapidly spreading lesions.

Taking a broad view of all these secondary eruptions, it cannot be too strongly urged that a most thorough examination should be made in cases at all doubtful. If the history of a primary lesion is obtained so much the better, but the observer must never lay any stress on its absence. Enquiry should be made as regards general



FIG. 44.—Tertiary Syphilis.

symptoms and throat conditions, but here again the physician must make actual personal examination. The enlarged glands are discrete and often rather hard. They are best found at the back of the neck, the supratrochlear region and the groin. To conclude, the history of a sudden onset of the eruption suggests its central causation, and the absence of itching, the symmetry, and the polymorphism are very strong diagnostic features.

There are many other eruptions occurring in the secondary and tertiary stages which are localised and often give rise to doubts. Leucoderma is most frequently seen about the region of the neck and is accompanied by a good deal of pigmentation round the small

white areas. Other stubborn patches often lasting for years simulate chronic psoriasis or tuberculosis. A unilateral psoriatic lesion on any of the limbs, such as the buttocks, calves, or the soles, and corresponding areas in the arm should be regarded with suspicion. If syphilitic, there is generally a feeling of involvement of the true skin. One edge may be very definitely thickened, and there is often some pigmentation. The ringed and horse-shoe manifestations may resemble psoriasis or ringworm, but these two diseases do not affect the true skin. While eruptions of this type may be noticed anywhere, they seem to occur more commonly on

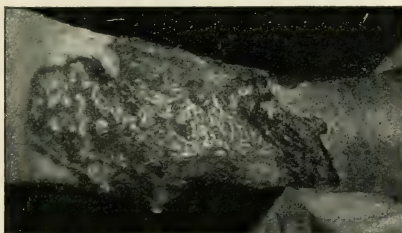


FIG. 45.—Tertiary Syphilis (leg).

the vascular parts of the body, the face and scalp taking easy precedence. Among the rarer lesions are the vesicular and purpuric type.

Congenital lesions are generally seen from a few weeks to some months after birth, and it has been remarked that if no lesions appear during the first six months, the child may be considered free. The frequent appearance of interstitial keratitis, Hutchinson's teeth, nasal catarrh, etc., need not be gone into here. On the skin the wrinkled old-mannish appearance is very significant, but otherwise the pemphigoid eruption occurring on the palms, soles, and legs is common. The bullæ are not so dense as in

pemphigus neonatorum, and lesions round the anus and the genitals in the form of a papular eruption often accompany them. Other manifestations are the erythematous papules closely resembling those seen in acquired syphilis.

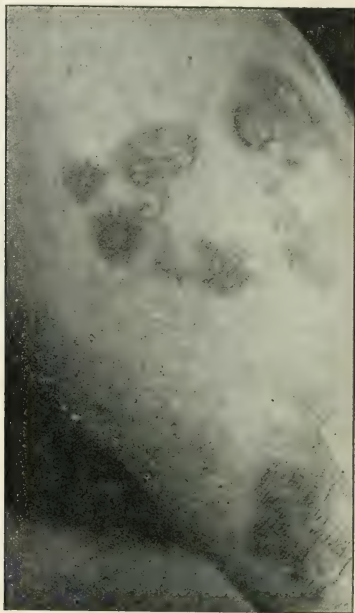


FIG. 46.—Syphilitic Pigmentation of the Leg.

*Specific Reactions.*—The Wasserman reaction is helpful but unreliable. In the early stages where it would be most valuable it is rarely obtained, because, probably, the blood as a whole is not



involved, in the tertiary cases it is often not obtained. More than once has the writer taken blood from cases showing typical secondary eruptions and obtained a negative report, and as regards, for instance, tertiary ulcers occurring on the leg, it is almost an invariable rule to get a negative report. So much is this the case that the writer chiefly makes use of the reaction to test cases under treatment by drugs. The luetin reaction is more satisfactory, and is identical with the Von Pirquet seen in tuberculosis. The writer has used it in a number of cases with satisfactory results, but it is still too expensive for ordinary use.

In conclusion it may be stated that up till now clinical diagnosis, which ultimately depends on the amount of experience of the observer, is the most valuable asset of the physician.

*Treatment.*—The various arsenical derivatives now in the market are of great value in the very early stage, and become less valuable later. It is true that the same applies to the iodides and mercury, but not quite to the same extent. The common opinion held, except in the minds of a few extremists, is that salvarsan preparations may cure a primary lesion, but are only important adjuncts in the treatment of secondary lesions. Probably "606" is the most powerful of them all, but the severity of the reaction and the difficulty of administration have militated against its use popularly. Neo-salvarsan, neo-kharsivan, nov-arsenobillon, diarsenol, and gallyl are probably very similar as regards results obtained. As a record of experience the writer may mention that he regards the first as best. The intravenous method is also more satisfactory, although cases now and then crop up where, owing to the smallness of the veins, it may be necessary to use intramuscular methods. Even with the greatest of care collapse may occur during the administration, and it is well to be prepared for it. Constriction of the veins is most easily obtained by the use of the pneumatic armlet provided in blood-pressure apparatus. It is essential that the needle should

be very sharp and that a careful aim be made for the centre of the vein; it and the arm as a whole must be firmly fixed, the former by pressure of the thumb over the vein and the latter by keeping the arm on the table. With a 10 c.c. syringe filled in part or whole with solution the needle is readily slipped over the thumb and into the vein, and when this is successful the blood will be noticed running back into the syringe. Pressure on the armlet can now be reduced and the injection slowly proceeded with. It is advisable every now and then to stop and allow time for the system to become accommodated to the drug. A small dose should be given and thereafter increasing doses once a week. It is a good plan to test the urine before administration, because albuminuria indicates extreme caution. Later it may be tested for its arsenical content. Practice only will enable the operator to acquire confidence and dexterity. Neo-salvarsan and gallyl if introduced inadvertently into the tissues are apt to be followed by sloughing; diarsenol is not so harmful to the tissues. The intramuscular method is carried out by the use of solutions or suspensions of these drugs in liquid paraffin or glucose. They are introduced into the buttock above and behind the trochanter major.

Mercury is still the most dependable of drugs used, but every endeavour should be made to ensure the proper method for the individual patient. Intramuscular injections hold the highest reputation, but they necessitate the patient coming once or twice a week and are always more or less painful. Various preparations are on the market. Harrison speaks highly of Lambkin's cream. The writer prefers colloidal mercury in 5 per cent. solution.

Inunction by ungt. hydrarg. is efficacious if thoroughly carried out, and especially valuable where the patient has an easily upset digestion. A piece the size of a pea should be rubbed in daily, the flexors being avoided.

For general purposes the grey powder pill of 1 to 3 grains

will be found most suitable. If, however, this causes diarrhœa it may be combined with a little iron or opium. Another favourite is hydrarg. perchlor. grain  $\frac{1}{36}$ th to  $\frac{1}{12}$ th combined in mixture with about 2 grains of potassium iodide to each dose. The weight of the patient as well as his or her *bien-être* form a very good index to the suitability of the treatment. The care of the teeth by means of regular brushing after each meal, and the use of disinfectant mouth washes is recognised as of importance. Sarsaparilla in the form of a freshly-made decoction is very valuable in the acutely febrile cases and where mercury is not well tolerated. While these are the common and are sufficient to indicate the most dependable drugs in use in the present state of our knowledge, many others are now and then proposed. Nothing should be left undone to ensure thorough eradication of the disease, and it is well that the patients should be made to understand that much of the success of the treatment lies in their own hands. Keeping the skin thoroughly clean by frequent bathing, the bowels and digestion normal, and leading in every way a quiet, temperate, and continent life are absolutely imperative. When, unfortunately, the physician has to deal with the disease in its later phases, then it will be found that while salvarsan preparations and still more mercury are efficacious, yet the value of these is altogether enhanced by the administration of iodides, and if possible these should be pushed up to large doses. Many cases will be found resisting 10 grains of iodide, and yielding to 30, 40, or even 60 grains thrice daily.

## APPENDIX.

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### PRESCRIPTIONS.

#### OINTMENTS.

Among those commonly employed are the following :—

R Hydrargyri Ammoniaci . . . gr. v.  
Vasellini ad . . . . . oz. 1.

To be used in impetigo and infective dermatitis.

R Sulphuris Præcipitati  
Acidi Salicylici āā . . . gr. v. to x.  
Vasellini ad . . . . . oz. 1.

To be used in seborrhœic conditions.

#### Hebra's Ointment.

R Emplastri Plumbi  
Vasellini āā . . . . . equal parts.

To be used as a sedative and astringent in various forms of dermatitis.

#### Zinc Ointment.

This is a very useful application, but as sold from stock, is often rancid. It is best made fresh, and from the oleate rather than the oxide of zinc.

A more actively sedative preparation is the following :—

R	Bismuthi Oxychloridi . . .	gr. x. to xxx.
	Vaselini ad . . . . .	oz. 1.

### PASTES.

A paste is to be preferred to an ointment when the eruption is moist, and frequently also when the parts are acutely inflamed and sensitive.

R	Zinci Oxidi or Magnes. Calc. Pond.	
	Pulv. Amyli	
	Lanolini	
	Vaselini āā . . . . .	drs. 2.

This forms a generally useful base.

To this can be added 5 grains Hydarg. Ammon. as an antiseptic ; 1 to 5 grains of Sulphur. Præcip. in seborrhœa ; or 1 to 10 grains of Salicylic Acid in cases of thickening of the epidermis.

A common application in the later stages of seborrhœa, psoriasis, and dermatitis contains 2 to 5 grains each of Sulphur. Præcip. and Salicylic Acid.

### LOTIONS.

R	Acidi Borici . . . . .	dram 1.
	Zinci Oxidi	
	Calaminæ. Præp. āā . . .	3 to 4 drams.
	Glycerini . . . . .	$\frac{1}{2}$ to 1 dram.
	Aquam ad . . . . .	4 oz.

This is a universally employed lotion to which other ingredients may be added. In itself sedative, the addition of a dram of ichthyol is useful when a vaso-constrictor action is

desired, or 1 or 2 drams of resorcin when a more specific effect on the epithelium is wanted. The substitution of boric acid by 1 dram of sulphur forms the sulpho-calamine lotion, used in acne and rosacea for its stimulating action on the glands of the skin. In more moist cases of acne rosacea benefit will be obtained by the employment of—

R Zinci Sulphatis

Potassæ. Sulphuratæ aa . . . 1 dram.

Aquam Rosæ ad . . . 4 oz.

Both active ingredients can be increased up to 4 drams if necessary, and the addition of 1 dram of resorcin is often of value to produce exfoliation. Still more actively astringent is the following:—

R Liq. Plumbi Subacetatis Fort . 2 drams.

Zinci Oxidi . . . . .  $\frac{1}{2}$  oz.

Glycerini . . . . . 2 to 4 drams.

Aquam ad . . . . . 6 oz.

If there is much itching then liq. Carbonis Detergens 1 to 4 drams is often to be recommended.

*Lotio Nigra* is a soothing antiseptic application often of great service.

In senile skins and where there is not much moisture, all of these lotions may be used as liniments by substituting Carron Oil, or rather equal parts of Olive or Almond Oil and Lime Water, for the pure water.

The above list is brief and introduced to form a skeleton framework from which other combinations may be constructed.

Many others will be found interspersed through the text.

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## NOTES.



